

SEQUENCE LISTING

<110> JOHNSTON, STEPHEN A.
STEMKE-HALE, KATHERINE
SYKES, KATHRYN F.
KALTENBOECK, BERNHARD

<120> METHODS AND compositions for Vaccination COMPRISING NUCLEIC ACID
AND/OR POLYPEPTIDE SEQUENCES OF *CHLAMYDIA*

<130> UTSD:736US

<140> UNKNOWN

<141> 2001-12-17

<150> 60/225,839

<151> 2000-12-15

<160> 69

<170> PatentIn Ver. 2.1

<210> 1

<211> 127

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

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gtgaccc 127

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<211> 15

<212> DNA

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<223> Description of Artificial Sequence: Synthetic
Primer

<400> 2

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<210> 3

<211> 11

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
Primer

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11

<210> 4

<211> 19

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
Primer

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19

<210> 5

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

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17

<210> 6

<211> 449

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

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ctaaacaaag atcagggaaa ttctcctcta tcggccatcg ccatgcacta ttccagtga 180
tgtttattag aaatcattga tttccttggt gaagcggcca aacatctaca acaaactatt 240
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tcttttagaaa ctctgttttc tcaactgaaa acatccacgt ttgatacagt gagaaacgta 360
ccccagcagc aagaaccctc gaaaccgagt atacaacctg aaaaacacta tcaagatcag 420
agttttcttaa cttcaccttc tcccacgcc 449

<210> 7

<211> 149

<212> PRT

<213> Chlamydia psittaci

<400> 7

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Thr Ala Ile Asn Ser Gly Val Ala Pro Ile Thr Phe Leu His Asp Leu
20 25 30

Thr Val Phe Tyr Arg Asp Val Leu Leu Asn Lys Asp Gln Gly Asn Ser
35 40 45

Pro Leu Ser Ala Ile Ala Met His Tyr Ser Ser Glu Cys Leu Leu Glu
50 55 60

Ile Ile Asp Phe Leu Gly Glu Ala Ala Lys His Leu Gln Gln Thr Ile
65 70 75 80

Phe Glu Lys Thr Phe Leu Glu Thr Val Ile Ile His Leu Ile Arg Ile
85 90 95

Cys Gln Arg Pro Ser Leu Glu Thr Leu Phe Ser Gln Leu Lys Thr Ser
100 105 110

Thr Phe Asp Thr Val Arg Asn Val Pro Gln Gln Gln Glu Pro Ser Lys
115 120 125

Pro Ser Ile Gln Pro Glu Lys His Tyr Gln Asp Gln Ser Phe Leu Thr
130 135 140

Ser Pro Ser Pro Thr
145

<210> 8

<211> 1332

<212> DNA

<213> Chlamydia psittaci

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gcgcatgcgt atttattttc agggattcgc ggaacaggaa aaacaacttt agcaagaatc 180
tttgcaaaag ccttaaaactg taaagagctg actcctgaac atgaaccatg caaccagtgt 240
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tcgcaccgag gtattgaaga tatccgtcaa atcaatgaaa ccgtgctctt tactcctgcc 360
aatcacaaat ataaaatcta tatcatagat gaagtccata tgctgactaa ggaggcgttt 420
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gctgaatctc tttatgatta tgtcataggg ttattcccta catctttatc cccagagttg 720
gttgcagacg cattagggtt attatctcaa gacaccttag ctacattatc agaattgtatt 780

cgcacgcaaa aatacgtga agctttgctt cctgtcacga cagcgatcaa ttctggagtc 840
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 caagaaccct cgaaaccgag tatacaacct gaaaaaact atcaagatca gagttttctta 1200
 acttcacctt ctcccacgcc aaaagttcag catcaaaaag aagcttcccc ttcttttagtg 1260
 ggatcagcta ctatagatac gcttttaciaa tttgctgttg ttgagttttc cggaatttta 1320
 accaaggagt aa 1332

<210> 9

<211> 443

<212> PRT

<213> Chlamydia psittaci

<400> 9

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			20					25					30		
Asn	Ala	Leu	Gln	Phe	Gln	Arg	Val	Ala	His	Ala	Tyr	Leu	Phe	Ser	Gly
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Ile	Arg	Gly	Thr	Gly	Lys	Thr	Thr	Leu	Ala	Arg	Ile	Phe	Ala	Lys	Ala
	50					55					60				
Leu	Asn	Cys	Lys	Glu	Leu	Thr	Pro	Glu	His	Glu	Pro	Cys	Asn	Gln	Cys
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Cys	Val	Cys	Lys	Glu	Ile	Ser	Ser	Gly	Thr	Ser	Leu	Asp	Val	Ile	Glu
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Ile	Asp	Gly	Ala	Ser	His	Arg	Gly	Ile	Glu	Asp	Ile	Arg	Gln	Ile	Asn
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Glu	Thr	Val	Leu	Phe	Thr	Pro	Ala	Lys	Ser	Gln	Tyr	Lys	Ile	Tyr	Ile
		115					120					125			
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Lys	Thr	Leu	Glu	Glu	Pro	Pro	Ser	His	Val	Lys	Phe	Phe	Leu	Ala	Thr
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Thr	Glu	Asn	Tyr	Lys	Ile	Pro	Ser	Thr	Ile	Leu	Ser	Arg	Cys	Gln	Lys
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Met	His	Leu	Lys	Arg	Ile	Pro	Glu	Thr	Met	Ile	Val	Asp	Lys	Leu	Ala
		180						185					190		

Ser Ile Ser Gln Ala Gly Gly Ile Glu Thr Ser Arg Glu Ala Leu Leu
 195 200 205
 Pro Ile Ala Arg Ala Ala Gln Gly Ser Leu Arg Asp Ala Glu Ser Leu
 210 215 220
 Tyr Asp Tyr Val Ile Gly Leu Phe Pro Thr Ser Leu Ser Pro Glu Leu
 225 230 235 240
 Val Ala Asp Ala Leu Gly Leu Leu Ser Gln Asp Thr Leu Ala Thr Leu
 245 250 255
 Ser Glu Cys Ile Arg Thr Gln Lys Tyr Ala Glu Ala Leu Leu Pro Val
 260 265 270
 Thr Thr Ala Ile Asn Ser Gly Val Ala Pro Ile Thr Phe Leu His Asp
 275 280 285
 Leu Thr Val Phe Tyr Arg Asp Val Leu Leu Asn Lys Asp Gln Gly Asn
 290 295 300
 Ser Pro Leu Ser Ala Ile Ala Met His Tyr Ser Ser Glu Cys Leu Leu
 305 310 315 320
 Glu Ile Ile Asp Phe Leu Gly Glu Ala Ala Lys His Leu Gln Gln Thr
 325 330 335
 Ile Phe Glu Lys Thr Phe Leu Glu Thr Val Ile Ile His Leu Ile Arg
 340 345 350
 Ile Cys Gln Arg Pro Ser Leu Glu Thr Leu Phe Ser Gln Leu Lys Thr
 355 360 365
 Ser Thr Phe Asp Thr Val Arg Asn Val Pro Gln Gln Gln Glu Pro Ser
 370 375 380
 Lys Pro Ser Ile Gln Pro Glu Lys His Tyr Gln Asp Gln Ser Phe Leu
 385 390 395 400
 Thr Ser Pro Ser Pro Thr Pro Lys Val Gln His Gln Lys Glu Ala Ser
 405 410 415
 Pro Ser Leu Val Gly Ser Ala Thr Ile Asp Thr Leu Leu Gln Phe Ala
 420 425 430
 Val Val Glu Phe Ser Gly Ile Leu Thr Lys Glu
 435 440

<210> 10

<211> 123

<212> DNA

<213> Chlamydia psittaci

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gaa 123

<210> 11

<211> 41

<212> PRT

<213> Chlamydia psittaci

<400> 11

Glu Phe Ile Gln Glu Tyr Glu Ser Ser Leu Asn Glu Val Ile Lys Thr
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Met Ala Ala Ser Ile Ala Met Asp Val Thr Asp Val Val Ile Glu Val
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Gly Leu Ser His Val Ile Ser Pro Glu
35 40

<210> 12

<211> 303

<212> DNA

<213> Chlamydia psittaci

<400> 12

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gaattaagcg aagagtttat tcaagagtat gaaagttctt taaatgaagt cattaaaact 120
atggcagcat ccacgctat ggatgtaacc gacgtgggtt ttgagggttg tttatcccat 180
gtgatcagtc ccgaagattt acgagaagat atcgttgctt caagtttctc tcgtgaggag 240
tttctaacta atgtccctga atccttaggg ggattagtaa aagtaccac agtcattaag 300
tag 303

<210> 13

<211> 100

<212> PRT

<213> Chlamydia psittaci

<400> 13

Met Thr Gln Pro Tyr Val Thr Arg Glu Asp Ile Ile Leu Leu Ala Lys
1 5 10 15

Ser Ser Ala Leu Glu Leu Ser Glu Glu Phe Ile Gln Glu Tyr Glu Ser
20 25 30

Ser Leu Asn Glu Val Ile Lys Thr Met Ala Ala Ser Ile Ala Met Asp
35 40 45

Val Thr Asp Val Val Ile Glu Val Gly Leu Ser His Val Ile Ser Pro
50 55 60

Glu Asp Leu Arg Glu Asp Ile Val Ala Ser Ser Phe Ser Arg Glu Glu
65 70 75 80

Phe Leu Thr Asn Val Pro Glu Ser Leu Gly Gly Leu Val Lys Val Pro
85 90 95

Thr Val Ile Lys
100

<210> 14

<211> 514

<212> DNA

<213> Chlamydia psittaci

<400> 14

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caggtgattg gacaaaaggg taaagatcaa caggtgtgcc aggtaggcta tagcttccaa 240
gaacattcag gaattaagaa tttataccct aaaggatgta acaaacttgt tgatggagag 300
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tagaattaaa cacaaaatct aaattgttca gttgtgcacg caaccgtttt ggagacgaac 420
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aagaagcagt gagaaaggct gttttatttg gttg 514

<210> 15

<211> 102

<212> PRT

<213> Chlamydia psittaci

<400> 15

Glu Lys Cys Asp Val Ile Ala Met Pro Val Cys Ser Cys Pro Ala Phe
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Ala Asp Gly Glu Ile Leu Asp Pro Thr Ser Leu Tyr Leu Gln Asp Ile
20 25 30

Tyr Thr Val Ala Met Asn Leu Ala Tyr Leu Pro Ala Ile Ala Val Pro
35 40 45

Ser Gly Phe Ser Arg Glu Gly Leu Pro Leu Gly Phe Gln Val Ile Gly
50 55 60

Gln Lys Gly Lys Asp Gln Gln Val Cys Gln Val Gly Tyr Ser Phe Gln
65 70 75 80

Glu His Ser Gly Ile Lys Asn Leu Tyr Pro Lys Gly Cys Asn Lys Leu
85 90 95

Val Asp Gly Glu Val Lys
100

<210> 16
 <211> 1476
 <212> DNA
 <213> Chlamydia psittaci

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<210> 17
 <211> 491
 <212> PRT
 <213> Chlamydia psittaci

<400> 17
 Met Tyr Gln Lys Ser Ala Leu Glu Leu Arg Asn Ala Val Val Ser Gly
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 20 25 30
 Thr Glu Asp Asn Gln Ile Gly Ala Phe Leu Ser Leu Cys Glu Glu Arg
 35 40 45
 Ala Tyr Glu Lys Ala Ala Ile Ile Asp Ala Lys Val Ala Arg Gly Glu
 50 55 60
 Pro Leu Gly Lys Leu Ala Gly Val Pro Ile Gly Ile Lys Asp Asn Ile
 65 70 75 80

For a full description of the data see the text

His	Ile	Arg	Gly	Leu	Arg	Thr	Thr	Cys	Ala	Ser	Lys	Met	Leu	Glu	Asn	
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Tyr	Ile	Ala	Pro	Phe	Asp	Ala	Thr	Val	Val	Glu	Arg	Ile	Glu	Ala	Glu	
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Asp	Gly	Val	Ile	Leu	Gly	Lys	Leu	Asn	Met	Asp	Glu	Phe	Ala	Met	Gly	
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Ser	Thr	Thr	Gln	Tyr	Ser	Ala	Phe	His	Pro	Thr	Lys	Asn	Pro	Trp	Gly	
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Ser	Ala	Arg	Phe	Cys	Pro	Ile	Ala	Leu	Gly	Ser	Asp	Thr	Gly	Gly	Ser	
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Ile	Arg	Gln	Pro	Ala	Ala	Phe	Cys	Gly	Val	Val	Gly	Phe	Lys	Pro	Ser	
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Tyr	Gly	Ala	Val	Ser	Arg	Tyr	Gly	Leu	Val	Ala	Phe	Gly	Ser	Ser	Leu	
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Asp	Gln	Ile	Gly	Pro	Leu	Thr	Thr	Val	Val	Glu	Asp	Val	Ala	Leu	Ala	
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225					230				235						240	
Phe	Phe	Thr	Gly	Ser	Phe	Gln	Glu	Ala	Leu	Ser	Leu	Asp	Val	Pro	Ser	
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Leu	Ile	Gly	Val	Pro	Met	Gly	Phe	Leu	Asp	Gly	Leu	Arg	Asp	Asp	Val	
		260						265					270			
Lys	Glu	Asn	Phe	Phe	Ala	Ser	Leu	Ser	Ile	Leu	Glu	Arg	Gln	Gly	Ser	
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Arg	Ile	Val	Glu	Val	Asp	Leu	Asn	Ile	Leu	Asp	His	Ala	Val	Ser	Val	
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Tyr	Tyr	Ile	Val	Ala	Ser	Ala	Glu	Ala	Ala	Thr	Asn	Leu	Ala	Arg	Phe	
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		340						345					350			
Arg	Arg	Ile	Leu	Leu	Gly	Asn	Tyr	Val	Leu	Ser	Thr	Glu	Arg	Gln	Asn	
		355				360						365				

Val Tyr Tyr Lys Lys Gly Ser Ala Ile Arg Ala Lys Ile Ile Gln Ala
370 375 380

Phe Gln Lys Ala Tyr Glu Lys Cys Asp Val Ile Ala Met Pro Val Cys
385 390 395 400

Ser Cys Pro Ala Phe Ala Asp Gly Glu Ile Leu Asp Pro Thr Ser Leu
405 410 415

Tyr Leu Gln Asp Ile Tyr Thr Val Ala Met Asn Leu Ala Tyr Leu Pro
420 425 430

Ala Ile Ala Val Pro Ser Gly Phe Ser Arg Glu Gly Leu Pro Leu Gly
435 440 445

Phe Gln Val Ile Gly Gln Lys Gly Lys Asp Gln Gln Val Cys Gln Val
450 455 460

Gly Tyr Ser Phe Gln Glu His Ser Gly Ile Lys Asn Leu Tyr Pro Lys
465 470 475 480

Gly Cys Asn Lys Leu Val Asp Gly Glu Val Lys
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<210> 18

<211> 1464

<212> DNA

<213> Chlamydia psittaci

<400> 18

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tccgtacgtc ctaaaggtag cgaagaacta cgcaataaag tagaaattaa aaatatgaac 660
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catacgcttc ccgagctccc tttcaacaaa taccaaagggt atttgcacga atatgctctt 960
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<210> 19
 <211> 487
 <212> PRT
 <213> Chlamydia psittaci

<400> 19

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His	Val	Glu	Leu	Asn	Thr	Lys	Ser	Lys	Leu	Phe	Ser	Cys	Ala	Arg	Asn
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Arg	Phe	Gly	Asp	Glu	Pro	Asn	Thr	Asn	Ile	Ser	Pro	Val	Cys	Thr	Gly
		35					40					45			
Met	Pro	Gly	Ser	Leu	Pro	Val	Leu	Asn	Lys	Glu	Ala	Val	Arg	Lys	Ala
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Val	Leu	Phe	Gly	Cys	Ala	Val	Glu	Gly	Glu	Val	Ala	Leu	Leu	Ser	Arg
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Phe	Asp	Arg	Lys	Ser	Tyr	Phe	Tyr	Pro	Asp	Ser	Pro	Arg	Asn	Phe	Gln
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Ile	Thr	Gln	Phe	Glu	His	Pro	Ile	Val	Arg	Gly	Gly	His	Ile	Lys	Ala
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Ile	Val	His	Gly	Glu	Glu	Arg	His	Phe	Glu	Leu	Ala	Gln	Ala	His	Ile
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Glu	Asp	Asp	Ala	Gly	Met	Leu	Lys	His	Phe	Gly	Glu	Phe	Ala	Gly	Val
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Asp	Tyr	Asn	Arg	Ala	Gly	Val	Pro	Leu	Ile	Glu	Ile	Val	Ser	Lys	Pro
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Cys	Met	Phe	Cys	Ala	Asp	Asp	Ala	Val	Ala	Tyr	Ala	Thr	Ala	Leu	Val
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Ser	Leu	Leu	Asp	Tyr	Ile	Gly	Ile	Ser	Asp	Cys	Asn	Met	Glu	Glu	Gly
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Ser	Val	Arg	Phe	Asp	Val	Asn	Ile	Ser	Val	Arg	Pro	Lys	Gly	Ser	Glu
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Glu	Leu	Arg	Asn	Lys	Val	Glu	Ile	Lys	Asn	Met	Asn	Ser	Phe	Ala	Phe
	210					215					220				
Met	Ala	Gln	Ala	Leu	Glu	Ala	Glu	Arg	Cys	Arg	Gln	Ile	Asp	Ala	Tyr

225		230		235		240
Leu Asp Asn Pro Asn Ala Asp Pro Lys Thr Val Ile Pro Gly Ala Thr						
		245		250		255
Tyr Arg Trp Asp Pro Glu Lys Lys Lys Thr Val Leu Met Arg Leu Lys						
		260		265		270
Glu Arg Ala Glu Asp Tyr Lys Tyr Phe Ile Glu Pro Asp Leu Pro Val						
		275		280		285
Leu Gln Leu Thr Glu Ala Tyr Ile Asp Glu Ile Arg His Thr Leu Pro						
		290		295		300
Glu Leu Pro Phe Asn Lys Tyr Gln Arg Tyr Leu His Glu Tyr Ala Leu						
305		310		315		320
Ala Glu Asp Ile Ala Ala Ile Leu Ile Ser Asp Lys His Ser Ala His						
		325		330		335
Phe Phe Glu Leu Ala Ala Gln Glu Cys Lys Asn Tyr Arg Ala Leu Ser						
		340		345		350
Asn Trp Leu Thr Val Glu Phe Ala Gly Arg Cys Lys Leu Lys Gly Lys						
		355		360		365
Asn Leu Ala Phe Ser Gly Ile Leu Pro Ser Ser Val Ala Gln Leu Val						
		370		375		380
Asn Phe Ile Asp Gln Gly Val Ile Thr Gly Lys Ile Ala Lys Asp Ile						
385		390		395		400
Ala Asp Met Met Met Glu Ser Pro Glu Lys Ser Pro Glu Thr Ile Leu						
		405		410		415
Lys Glu Asn Pro Glu Met Leu Pro Met Thr Asp Glu Ser Ala Leu Val						
		420		425		430
Ala Ile Ile Ser Glu Val Ile Thr Ala Asn Pro Gln Ser Val Val Asp						
		435		440		445
Tyr Lys Ser Gly Lys Thr Lys Ala Leu Gly Phe Leu Val Gly Gln Ile						
		450		455		460
Met Lys Arg Thr Gln Gly Lys Ala Pro Pro Asn Arg Val Asn Glu Leu						
465		470		475		480
Leu Leu Val Glu Leu Ser Lys						
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 <211> 379
 <212> DNA

<213> Chlamydia psittaci

<400> 20

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gtccttaacg cacagttaac ttattgtcat gcttcaaacg acatgaaaac caacatgacg 180
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tgtttcggag tcgagcttgg tgcaactgtg cctatccaaa cagaatcttc tctcctattc 300
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gaaaacaata gcgatcagg 379

<210> 21

<211> 126

<212> PRT

<213> Chlamydia psittaci

<400> 21

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20 25 30
Thr Ile Gly Ala Glu Ala Pro Leu Val Leu Asn Ala Gln Leu Thr Tyr
35 40 45
Cys His Ala Ser Asn Asp Met Lys Thr Asn Met Thr Thr Thr Tyr Ala
50 55 60
Pro Arg Lys Thr Thr Tyr Ala Glu Ile Lys Gly Asp Trp Gly Asn Asp
65 70 75 80
Cys Phe Gly Val Glu Leu Gly Ala Thr Val Pro Ile Gln Thr Glu Ser
85 90 95
Ser Leu Leu Phe Asp Met Tyr Ser Pro Phe Leu Lys Phe Gln Leu Val
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His Thr His Gln Asp Asp Phe Lys Glu Asn Asn Ser Asp Gln
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<210> 22

<211> 2520

<212> DNA

<213> Chlamydia psittaci

<400> 22

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aatgtgtgta tctcctttgc agggaaagat tcaggctctaa agaaaagttg tttctcagct 240
actgataacc ttaccttcct aggaaacggg tatactcttt gctttgataa tattactact 300

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<210> 23
 <211> 839
 <212> PRT
 <213> Chlamydia psittaci

<400> 23
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 20 25 30
 Ser Asp Ser Tyr Asn Gly Asn Val Thr Ser Glu Glu Phe Gln Val Lys
 35 40 45

Glu	Thr	Ser	Ser	Gly	Thr	Thr	Tyr	Thr	Cys	Glu	Gly	Asn	Val	Cys	Ile	50	55	60	
Ser	Phe	Ala	Gly	Lys	Asp	Ser	Gly	Leu	Lys	Lys	Ser	Cys	Phe	Ser	Ala	65	70	75	80
Thr	Asp	Asn	Leu	Thr	Phe	Leu	Gly	Asn	Gly	Tyr	Thr	Leu	Cys	Phe	Asp	85	90	95	
Asn	Ile	Thr	Thr	Thr	Ala	Ser	Asn	Pro	Gly	Ala	Ile	Asn	Val	Gln	Gly	100	105	110	
Gln	Gly	Lys	Thr	Leu	Gly	Ile	Ser	Gly	Phe	Ser	Leu	Phe	Ser	Cys	Ala	115	120	125	
Tyr	Cys	Pro	Pro	Gly	Thr	Thr	Gly	Tyr	Gly	Ala	Ile	Gln	Thr	Lys	Gly	130	135	140	
Asn	Thr	Thr	Leu	Lys	Asp	Asn	Ser	Ser	Leu	Val	Phe	His	Lys	Asn	Cys	145	150	155	160
Ser	Thr	Ala	Glu	Gly	Gly	Ala	Ile	Gln	Cys	Lys	Gly	Ser	Ser	Asp	Ala	165	170	175	
Glu	Leu	Lys	Ile	Glu	Asn	Asn	Gln	Asn	Leu	Val	Phe	Ser	Glu	Asn	Ser	180	185	190	
Ser	Thr	Ser	Lys	Gly	Gly	Ala	Ile	Tyr	Ala	Asp	Lys	Leu	Thr	Ile	Val	195	200	205	
Ser	Gly	Gly	Pro	Thr	Leu	Phe	Ser	Asn	Asn	Ser	Val	Ser	Asn	Gly	Ser	210	215	220	
Ser	Pro	Lys	Gly	Gly	Ala	Ile	Ser	Ile	Lys	Asp	Ser	Ser	Gly	Glu	Cys	225	230	235	240
Ser	Leu	Thr	Ala	Asp	Leu	Gly	Asp	Ile	Thr	Phe	Asp	Gly	Asn	Lys	Ile	245	250	255	
Ile	Lys	Thr	Ser	Gly	Gly	Ser	Ser	Thr	Val	Thr	Arg	Asn	Ser	Ile	Asp	260	265	270	
Leu	Gly	Thr	Gly	Lys	Phe	Thr	Lys	Leu	Arg	Ala	Lys	Asp	Gly	Phe	Gly	275	280	285	
Ile	Phe	Phe	Tyr	Asp	Pro	Ile	Thr	Gly	Gly	Gly	Ser	Asp	Glu	Leu	Asn	290	295	300	
Ile	Asn	Lys	Lys	Glu	Thr	Val	Asp	Tyr	Thr	Gly	Lys	Ile	Val	Phe	Ser	305	310	315	320
Gly	Glu	Lys	Leu	Ser	Asp	Glu	Glu	Lys	Ala	Arg	Ala	Glu	Asn	Leu	Ala	325	330	335	

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Ser	Thr	Phe	Asn	Gln	Pro	Ile	Thr	Leu	Ser	Ala	Gly	Ser	Leu	Val	Leu	340	345	350
Lys	Asp	Gly	Val	Ser	Val	Thr	Ala	Lys	Gln	Val	Thr	Gln	Glu	Ala	Gly	355	360	365
Ser	Thr	Val	Val	Met	Asp	Leu	Gly	Thr	Thr	Leu	Gln	Thr	Pro	Ser	Ser	370	375	380
Gly	Gly	Glu	Thr	Ile	Thr	Leu	Thr	Asn	Leu	Asp	Ile	Asn	Ile	Ala	Ser	385	390	395
Leu	Gly	Gly	Gly	Gly	Gly	Thr	Ser	Pro	Ala	Lys	Leu	Ala	Thr	Asn	Thr	405	410	415
Ala	Ser	Gln	Ala	Ile	Thr	Ile	Asn	Ala	Val	Asn	Leu	Val	Asp	Ala	Asp	420	425	430
Gly	Asn	Ala	Tyr	Glu	Asp	Pro	Ile	Leu	Ala	Thr	Ser	Lys	Pro	Phe	Thr	435	440	445
Ala	Ile	Val	Ala	Thr	Thr	Asn	Ala	Ser	Thr	Val	Thr	Gln	Pro	Thr	Asp	450	455	460
Asn	Leu	Thr	Asn	Tyr	Val	Pro	Pro	Thr	His	Tyr	Gly	Tyr	Gln	Gly	Asn	465	470	475
Trp	Thr	Val	Thr	Trp	Asp	Thr	Glu	Thr	Ala	Thr	Lys	Thr	Ala	Thr	Leu	485	490	495
Thr	Trp	Glu	Gln	Thr	Gly	Tyr	Ser	Pro	Asn	Pro	Glu	Arg	Gln	Gly	Pro	500	505	510
Leu	Val	Pro	Asn	Thr	Leu	Trp	Gly	Ala	Phe	Ser	Asp	Leu	Arg	Ala	Ile	515	520	525
Gln	Asn	Leu	Met	Asp	Ile	Ser	Val	Asn	Gly	Ala	Asp	Tyr	His	Arg	Gly	530	535	540
Phe	Trp	Val	Ser	Gly	Leu	Ala	Asn	Phe	Leu	His	Lys	Ser	Gly	Ser	Asp	545	550	555
Thr	Lys	Arg	Lys	Phe	Arg	His	Asn	Ser	Ala	Gly	Tyr	Ala	Leu	Gly	Val	565	570	575
Tyr	Ala	Lys	Thr	Pro	Ser	Asp	Asp	Ile	Phe	Ser	Ala	Ala	Phe	Cys	Gln	580	585	590
Leu	Phe	Gly	Lys	Asp	Lys	Asp	Tyr	Leu	Val	Ser	Lys	Asn	Asn	Ala	Asn	595	600	605
Ile	Tyr	Ala	Gly	Ser	Leu	Tyr	Tyr	Gln	His	Ile	Ser	Tyr	Trp	Ser	Ala	610	615	620

Trp Gln Asn Leu Leu Gln Asn Thr Ile Gly Ala Glu Ala Pro Leu Val
625 630 635 640

Leu Asn Ala Gln Leu Thr Tyr Cys His Ala Ser Asn Asp Met Lys Thr
645 650 655

Asn Met Thr Thr Thr Tyr Ala Pro Arg Lys Thr Thr Tyr Ala Glu Ile
660 665 670

Lys Gly Asp Trp Gly Asn Asp Cys Phe Gly Val Glu Leu Gly Ala Thr
675 680 685

Val Pro Ile Gln Thr Glu Ser Ser Leu Leu Phe Asp Met Tyr Ser Pro
690 695 700

Phe Leu Lys Phe Gln Leu Val His Thr His Gln Asp Asp Phe Lys Glu
705 710 715 720

Asn Asn Ser Asp Gln Gly Arg Tyr Phe Glu Ser Ser Asn Leu Thr Asn
725 730 735

Leu Ser Leu Pro Ile Gly Ile Lys Phe Glu Arg Phe Ala Asn Asn Asp
740 745 750

Thr Ala Ser Tyr His Val Thr Ala Ala Tyr Ser Pro Asp Ile Val Arg
755 760 765

Ser Asn Pro Asp Cys Thr Thr Ser Leu Leu Val Ser Pro Asp Ser Ala
770 775 780

Val Trp Val Thr Lys Ala Asn Asn Leu Ala Arg Ser Ala Phe Met Leu
785 790 795 800

Gln Ala Gly Asn Tyr Leu Ser Leu Ser His Asn Ile Glu Ile Phe Ser
805 810 815

Gln Phe Gly Phe Glu Leu Arg Gly Ser Ser Arg Thr Tyr Asn Val Asp
820 825 830

Leu Gly Ser Lys Ile Gln Phe
835

<210> 24

<211> 1039

<212> DNA

<213> Chlamydia psittaci

<400> 24

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aacggtgggtt atgatgtgcg ccctaccttg ataaaaaaaa tagtcactac ttctggaaaa 180
gagtacgtgt tgcacctca agttcgtgga gaaagaattc tttctcagga cattgtggat 240
gaggtattga aagctacgcg ttttactacc tctcctggag gaacgggatt tcgggctgcg 300

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caagtgtacg tcgttcaatt gcgacatgag ggtatcgaaa tctgtcgtca attcgtccat 540
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<210> 25

<211> 196

<212> PRT

<213> Chlamydia psittaci

<400> 25

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```

```

Tyr Ser Leu Ala Met Gly Tyr Asn Ile Leu Ala Thr Gly Val Gln Met
      20              25              30

```

```

Val Lys Ala Tyr Ala Ile Leu Ala Asn Gly Gly Tyr Asp Val Arg Pro
      35              40              45

```

```

Thr Leu Ile Lys Lys Ile Val Thr Thr Ser Gly Lys Glu Tyr Val Leu
      50              55              60

```

```

His Pro Gln Val Arg Gly Glu Arg Ile Leu Ser Gln Asp Ile Val Asp
      65              70              75              80

```

```

Glu Val Leu Lys Ala Thr Arg Phe Thr Thr Tyr Pro Gly Gly Thr Gly
      85              90              95

```

```

Phe Arg Ala Ala Pro Lys Lys His Ser Ser Ala Gly Lys Thr Gly Thr
      100             105             110

```

```

Thr Glu Lys Leu Val His Gly Lys Tyr Asp Lys His Arg His Ile Ser
      115             120             125

```

```

Ser Phe Ile Gly Ile Thr Pro Ile Tyr Pro Ser Ala Gly Gly Ser Val
      130             135             140

```

```

Pro Leu Val Met Leu Val Ser Ile Ser Tyr Thr Thr Asp Asn Gly Ser
      145             150             155             160

```

```

Gln Val Tyr Val Val Gln Leu Arg His Glu Gly Ile Glu Ile Cys Arg
      165             170             175

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Gln Phe Val His Val Asn Leu Ile Val Trp Ser Leu Ser Leu Ser Leu
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Tyr Tyr Leu Pro
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<210> 26
<211> 1950
<212> DNA
<213> Chlamydia psittaci

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<210> 27
<211> 649
<212> PRT
<213> Chlamydia psittaci

<400> 27

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Ser	Tyr	Ser	Phe	Leu	Ile	Ile	Arg	Tyr	Tyr	Lys	Ile	Gln	Ile	Cys	Glu	20	25	30	
Glu	Lys	Arg	Trp	Ala	Ala	Glu	Ala	Leu	Gly	Gln	His	Glu	Phe	Arg	Val	35	40	45	
Lys	Asp	Pro	Phe	Arg	Arg	Gly	Thr	Phe	Phe	Ser	Gln	Met	Asn	Leu	Arg	50	55	60	
Lys	Gly	Asp	Ser	Glu	Gln	Arg	Gln	Ala	Leu	Ala	Val	Asp	Ile	Thr	Lys	65	70	75	80
Phe	His	Leu	Cys	Leu	Asp	Ala	Val	Ala	Val	Pro	Glu	Glu	His	Arg	Asp	85	90	95	
Val	Ile	Ala	Lys	Lys	Val	Phe	Ser	Leu	Ile	Gly	Glu	Gly	Asp	Tyr	Asp	100	105	110	
Lys	Leu	Arg	Ala	Glu	Phe	Asp	Lys	Lys	Ser	Arg	Tyr	Arg	Lys	Leu	Phe	115	120	125	
Leu	Trp	Leu	Asp	Arg	Ala	Asp	His	Asp	Arg	Ile	Leu	Ser	Trp	Trp	Arg	130	135	140	
Gly	Tyr	Ala	Ala	Lys	Ser	Lys	Ile	Pro	Ser	Asn	Ala	Leu	Phe	Phe	Met	145	150	155	160
Thr	Asp	Tyr	Gln	Arg	Ser	Tyr	Pro	Phe	Gly	Lys	Leu	Leu	Gly	Gln	Val	165	170	175	
Leu	His	Thr	Leu	Arg	Glu	Val	Lys	Asp	Glu	Lys	Thr	Gly	Lys	Ala	Phe	180	185	190	
Pro	Thr	Gly	Gly	Leu	Glu	Ala	Tyr	Phe	Asn	His	Val	Leu	Glu	Gly	Glu	195	200	205	
Pro	Gly	Glu	Arg	Lys	Phe	Leu	Arg	Ser	Pro	Leu	Asn	Arg	Leu	Asp	Leu	210	215	220	
Asp	Lys	Val	Thr	Lys	Ile	Pro	Arg	Asp	Gly	Ser	Asp	Ile	Tyr	Leu	Thr	225	230	235	240
Val	Asn	Pro	Cys	Ile	Gln	Thr	Ile	Ala	Glu	Glu	Glu	Leu	Glu	Lys	Gly	245	250	255	
Val	Lys	Glu	Ala	Lys	Ala	Lys	Gly	Gly	Arg	Leu	Ile	Leu	Met	Asn	Ala	260	265	270	
Tyr	Thr	Gly	Glu	Ile	Leu	Ala	Leu	Ala	Gln	Tyr	Pro	Phe	Phe	Asn	Pro	275	280	285	

25103618.1

Ser	Glu	Tyr	Lys	Glu	Phe	Phe	Asn	Asp	Lys	Glu	Lys	Ile	Glu	His	Thr	290	295	300	
Lys	Val	Thr	Ser	Val	Ser	Asp	Val	Phe	Glu	Pro	Gly	Ser	Ile	Met	Lys	305	310	315	320
Pro	Leu	Thr	Leu	Ala	Ile	Ala	Leu	Leu	Ala	Asn	Glu	Glu	Met	Val	Lys	325	330	335	
Arg	Ser	Gly	Lys	Pro	Leu	Phe	Asp	Pro	Asn	Glu	Pro	Ile	Asp	Val	Thr	340	345	350	
Arg	Arg	Ile	Phe	Pro	Gly	Arg	Lys	Gln	Phe	Pro	Leu	Lys	Asp	Ile	Ser	355	360	365	
Ser	Asn	Arg	Arg	Leu	Asn	Met	Tyr	Met	Ala	Ile	Gln	Lys	Ser	Ser	Asn	370	375	380	
Val	Tyr	Val	Ala	Gln	Leu	Ala	Asp	Leu	Ile	Val	Gln	His	Leu	Gly	Asn	385	390	395	400
His	Trp	Tyr	Glu	Asp	Lys	Leu	Leu	Leu	Leu	Gly	Phe	Gly	Lys	Lys	Thr	405	410	415	
Gly	Ile	Glu	Leu	Pro	Gly	Glu	Ala	Ser	Gly	Leu	Val	Pro	Ser	Pro	Lys	420	425	430	
Arg	Phe	His	Ile	Asn	Gly	Val	Pro	Glu	Trp	Ser	Leu	Ser	Thr	Pro	Tyr	435	440	445	
Ser	Leu	Ala	Met	Gly	Tyr	Asn	Ile	Leu	Ala	Thr	Gly	Val	Gln	Met	Val	450	455	460	
Lys	Ala	Tyr	Ala	Ile	Leu	Ala	Asn	Gly	Gly	Tyr	Asp	Val	Arg	Pro	Thr	465	470	475	480
Leu	Ile	Lys	Lys	Ile	Val	Thr	Thr	Ser	Gly	Lys	Glu	Tyr	Val	Leu	His	485	490	495	
Pro	Gln	Val	Arg	Gly	Glu	Arg	Ile	Leu	Ser	Gln	Asp	Ile	Val	Asp	Glu	500	505	510	
Val	Leu	Lys	Ala	Thr	Arg	Phe	Thr	Thr	Tyr	Pro	Gly	Gly	Thr	Gly	Phe	515	520	525	
Arg	Ala	Ala	Pro	Lys	Lys	His	Ser	Ser	Ala	Gly	Lys	Thr	Gly	Thr	Thr	530	535	540	
Glu	Lys	Leu	Val	His	Gly	Lys	Tyr	Asp	Lys	His	Arg	His	Ile	Ser	Ser	545	550	555	560
Phe	Ile	Gly	Ile	Thr	Pro	Ile	Tyr	Pro	Ser	Ala	Gly	Gly	Ser	Val	Pro	565	570	575	

Leu Val Met Leu Val Ser Ile Asp Asp Pro Asp His Cys Val Arg Glu
580 585 590

Asp Gly Thr Lys Asn Tyr Met Gly Gly Arg Cys Ala Ala Pro Val Phe
595 600 605

Gly Arg Val Ala Asp Arg Val Leu Ser Tyr Leu Gly Val Pro Glu Asp
610 615 620

Lys Glu Lys Tyr Ser Tyr Gln Ser Glu Val Ala Ala Met Lys Ala Leu
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Tyr Glu Glu Trp Asn Arg Ser Gly Lys
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<210> 28

<211> 960

<212> DNA

<213> Chlamydia psittaci

<400> 28

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<210> 29

<211> 258

<212> PRT

<213> Chlamydia psittaci

<400> 29

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Asn Tyr Thr Ile Arg Lys His Thr Leu Glu Tyr Asp Asp Val Met Asn
20 25 30

Arg Gln Arg Gln Thr Ile Tyr Ala Phe Arg Asn Asp Val Ile Arg Ser
35 40 45

Glu Asp Ile Phe Gly Leu Ala Lys Glu Ala Ile Ser His Val Ala Leu
 50 55 60
 Met Ile Ala Ser Leu Ile Val Ser Arg Asp His Pro Thr Gly Asn Ser
 65 70 75 80
 Leu Pro Arg Leu Glu Glu Trp Met Asn Tyr Ser Phe Pro Leu Gln Leu
 85 90 95
 Asn Ile Glu Glu Leu Lys Arg Leu Lys Ser Ile Asp Ala Ile Ala Glu
 100 105 110
 Arg Val Ala Asp Asp Leu Ile Glu Val Phe Gln Asn Lys Phe Ala Ser
 115 120 125
 Met Val Gln Glu Ile Thr Glu Ala Ala Gly Glu Lys Val Asp Ala Asn
 130 135 140
 Gly Val Cys Lys Asp Val Ile Arg Ser Val Met Ile Met His Ile Asp
 145 150 155 160
 Glu Gln Trp Lys Ile His Leu Val Asp Met Asp Leu Leu Arg Ser Glu
 165 170 175
 Val Gly Leu Arg Thr Val Gly Gln Lys Asp Pro Leu Ile Glu Phe Lys
 180 185 190
 His Glu Ser Phe Leu Leu Phe Glu Ser Leu Ile Arg Asp Ile Arg Ile
 195 200 205
 Ala Ile Val Lys His Leu Phe Arg Leu Glu Leu Thr Met Thr Arg Glu
 210 215 220
 Gln Arg Pro Gln Asn Val Val Pro Val Val Ala Thr Ser Phe Gln Asn
 225 230 235 240
 Asn Glu Asn Phe Gly Pro Leu Glu Leu Thr Val Ile Ser Asp Ser Asp
 245 250 255

Asp Glu

<210> 30

<211> 697

<212> DNA

<213> Chlamydia psittaci

<400> 30

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 cctttaatta tttctgggtcc tggggaaaaa cataatcctg tgtatttcga actcaaagat 180
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gaagctatct ccgaattttg ccgtagctta tggtagtta gtaagggaat gccttttaa 360
cgtgttttgc gtagagtgcg cgaacaccca gatttgcgag ccatgataga taaatgggat 420
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<210> 31

<211> 232

<212> PRT

<213> Chlamydia psittaci

<400> 31

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Ile Leu Ile Asp Glu Ala Arg Thr Pro Leu Ile Ile Ser Gly Pro Gly
35 40 45

Glu Lys His Asn Pro Val Tyr Phe Glu Leu Lys Asp Lys Val Ala Asp
50 55 60

Leu Val Gln Leu Gln Arg Glu Leu Cys Asn Gln Leu Ala Leu Glu Ala
65 70 75 80

Arg Arg Gly Leu Glu Leu Phe Leu Asp Met Asp Ile Leu Pro Lys Asp
85 90 95

Lys Lys Val Ile Glu Ala Ile Ser Glu Phe Cys Arg Ser Leu Trp Leu
100 105 110

Val Ser Lys Gly Met Pro Leu Asn Arg Val Leu Arg Arg Val Arg Glu
115 120 125

His Pro Asp Leu Arg Ala Met Ile Asp Lys Trp Asp Thr Tyr Tyr His
130 135 140

Ala Glu Gln Asn Lys Glu Glu Ser Ile Glu Lys Leu Ser Gln Leu Tyr
145 150 155 160

Ile Ile Val Asp Glu His Asn Asn Asp Phe Glu Leu Thr Asp Arg Gly
165 170 175

Met Gln Gln Trp Val Asp Lys Ala Gly Gly Ser Ala Glu Asp Phe Val
180 185 190

Met Met Asp Met Gly His Glu Tyr Ala Leu Ile Asp Gly Asp Asp Thr
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<210> 32

<211> 2910

<212> DNA

<213> Chlamydia psittaci

<400> 32

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gagttacgta	ataaaacagc	agagttaaaa	aagcgttatc	aggacggcga	atccttagat	180
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<210> 33

<211> 969

<212> PRT

<213> Chlamydia psittaci

<400> 33

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Met	Leu	Ala	Pro	Leu	Ser	Asp	Glu	Glu	Leu	Arg	Asn	Lys	Thr	Ala	Glu
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Leu	Lys	Lys	Arg	Tyr	Gln	Asp	Gly	Glu	Ser	Leu	Asp	Asp	Met	Leu	Pro
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Glu	Ala	Tyr	Ala	Val	Val	Lys	Asn	Val	Cys	Arg	Arg	Leu	Thr	Gly	Thr
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Pro	Val	Glu	Val	Ser	Gly	Tyr	His	Gln	Asn	Trp	Asp	Met	Val	Pro	Tyr
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Asp	Val	Gln	Val	Leu	Gly	Ala	Ile	Ala	Met	His	Lys	Gly	Phe	Ile	Thr
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Glu	Met	Gln	Thr	Gly	Glu	Gly	Lys	Thr	Leu	Thr	Ala	Val	Met	Pro	Leu
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Tyr	Leu	Asn	Ala	Leu	Thr	Gly	Lys	Pro	Val	His	Leu	Val	Thr	Val	Asn
	130					135					140				
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Lys	Arg	Lys	Asp	Ile	Tyr	Arg	Cys	Asp	Val	Val	Tyr	Gly	Thr	Ala	Ser
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Asp	Ser	Ile	Leu	Ile	Asp	Glu	Ala	Arg	Thr	Pro	Leu	Ile	Ile	Ser	Gly
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Pro	Gly	Glu	Lys	His	Asn	Pro	Val	Tyr	Phe	Glu	Leu	Lys	Asp	Lys	Val
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Ala	Asp	Leu	Val	Gln	Leu	Gln	Arg	Glu	Leu	Cys	Asn	Gln	Leu	Ala	Leu
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Glu	Ala	Arg	Arg	Gly	Leu	Glu	Leu	Phe	Leu	Asp	Met	Asp	Ile	Leu	Pro
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Arg	Glu	His	Pro	Asp	Leu	Arg	Ala	Met	Ile	Asp	Lys	Trp	Asp	Thr	Tyr
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Tyr	His	Ala	Glu	Gln	Asn	Lys	Glu	Glu	Ser	Ile	Glu	Lys	Leu	Ser	Gln
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Leu	Tyr	Ile	Ile	Val	Asp	Glu	His	Asn	Asn	Asp	Phe	Glu	Leu	Thr	Asp
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Phe	Val	Met	Met	Asp	Met	Gly	His	Glu	Tyr	Ala	Leu	Ile	Asp	Gly	Asp
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Asp	Thr	Leu	Ser	Pro	Thr	Glu	Lys	Ile	Asn	Arg	Lys	Ile	Ala	Ile	Ser
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His	Val	Thr	Ile	Arg	Lys	Glu	Ser	Gln	Thr	Phe	Ala	Thr	Val	Thr	Leu

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Gln	Asn	Phe	Phe	Arg	Leu	Tyr	Glu	Lys	Leu	Ala	Gly	Met	Thr	Gly	Thr				
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Ala	Ile	Thr	Glu	Ser	Lys	Glu	Phe	Lys	Glu	Ile	Tyr	Asn	Leu	Tyr	Val				
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Ile	Glu	His	Thr	Val	Leu	Asn	Ala	Lys	Asn	His	Ala	Gln	Glu	Ala	Glu				
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Met	Ala	Gly	Arg	Gly	Thr	Asp	Ile	Lys	Leu	Asp	Glu	Glu	Ala	Val	Val				
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Val	Gly	Gly	Leu	His	Val	Ile	Gly	Thr	Ser	Arg	His	Gln	Ser	Arg	Arg				
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Ile	Asp	Arg	Gln	Leu	Arg	Gly	Arg	Cys	Ala	Arg	Leu	Gly	Asp	Pro	Gly				
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Ser	Ala	Lys	Phe	Phe	Leu	Ser	Phe	Glu	Asp	Arg	Leu	Met	Arg	Leu	Phe				
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Ala	Ser	Pro	Lys	Leu	Asn	Ala	Leu	Ile	Arg	His	Phe	Arg	Pro	Pro	Glu				
						695					700								
Gly	Glu	Ala	Met	Ser	Asp	Pro	Met	Phe	Asn	Lys	Leu	Ile	Glu	Thr	Ala				
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Gln	Lys	Arg	Val	Glu	Ala	Arg	Asn	Tyr	Thr	Ile	Arg	Lys	His	Thr	Leu				
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Glu	Tyr	Asp	Asp	Val	Met	Asn	Arg	Gln	Arg	Gln	Thr	Ile	Tyr	Ala	Phe				
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Arg	Asn	Asp	Val	Ile	Arg	Ser	Glu	Asp	Ile	Phe	Gly	Leu	Ala	Lys	Glu				
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770

775

780

Asp His Pro Thr Gly Asn Ser Leu Pro Arg Leu Glu Glu Trp Met Asn
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Tyr Ser Phe Pro Leu Gln Leu Asn Ile Glu Glu Leu Lys Arg Leu Lys
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Ser Ile Asp Ala Ile Ala Glu Arg Val Ala Asp Asp Leu Ile Glu Val
820 825 830

Phe Gln Asn Lys Phe Ala Ser Met Val Gln Glu Ile Thr Glu Ala Ala
835 840 845

Gly Glu Lys Val Asp Ala Asn Gly Val Cys Lys Asp Val Ile Arg Ser
850 855 860

Val Met Ile Met His Ile Asp Glu Gln Trp Lys Ile His Leu Val Asp
865 870 875 880

Met Asp Leu Leu Arg Ser Glu Val Gly Leu Arg Thr Val Gly Gln Lys
885 890 895

Asp Pro Leu Ile Glu Phe Lys His Glu Ser Phe Leu Leu Phe Glu Ser
900 905 910

Leu Ile Arg Asp Ile Arg Ile Ala Ile Val Lys His Leu Phe Arg Leu
915 920 925

Glu Leu Thr Met Thr Arg Glu Gln Arg Pro Gln Asn Val Val Pro Val
930 935 940

Val Ala Thr Ser Phe Gln Asn Asn Glu Asn Phe Gly Pro Leu Glu Leu
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Thr Val Ile Ser Asp Ser Asp Asp Glu
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<210> 34

<211> 577

<212> DNA

<213> Chlamydia psittaci

<400> 34

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<211> 76

<212> PRT

<213> Chlamydia psittaci

<400> 35

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35 40 45

Met His Lys Leu Lys Gln Leu Leu Gln Ser Ser Ser Val Gln Asp Phe
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Phe Asn Thr Lys Tyr Lys Gly Ile Phe Leu Ser Gln
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<212> DNA

<213> Chlamydia psittaci

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gcagcacctt tattagtatc ttctttacca gacgttgatg ctgcagttat tccagggaac 600
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<210> 37

<211> 267

<212> PRT

<213> Chlamydia psittaci

<400> 37

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Thr Gly Cys Cys Lys Asn Ser Glu Gly Val Leu Arg Ile Ala Ala Ser	20	25	30
Pro Thr Pro His Ala Glu Leu Leu Tyr Ser Leu Glu Lys Glu Ala Gln	35	40	45
Ser Leu Gly Leu Gln Leu Lys Ile Leu Pro Ile Asp Asp Tyr Arg Val	50	55	60
Pro Asn Arg Leu Leu Leu Asp Lys Gln Ile Glu Ala Asn Tyr Phe Gln	65	70	75
His Glu Asp Phe Leu Lys Asp Glu Cys Ala Arg Tyr Gln Cys Glu Gly	85	90	95
Lys Leu Ala Ile Leu Ala Lys Val His Leu Glu Pro Met Gly Leu Tyr	100	105	110
Ser Asn Lys Thr Gln Ser Leu Glu Glu Leu Lys Val Lys Glu Gln Leu	115	120	125
Arg Ile Ala Val Pro Ile Asp Arg Thr Asn Glu Gln Arg Ala Leu Asp	130	135	140
Leu Leu Arg Asp Cys Asn Leu Ile Ser Tyr Lys Glu Ala Ser His Leu	145	150	155
Asp Ile Thr Ala Lys Asp Val Phe Gly Cys Gly Gly Lys Lys Val Thr	165	170	175
Ile Ile Glu Met Ala Ala Pro Leu Leu Val Ser Ser Leu Pro Asp Val	180	185	190
Asp Ala Ala Val Ile Pro Gly Asn Phe Ala Ile Ala Gly Gly Ile Cys	195	200	205
Pro Tyr Lys Asn Ser Leu Tyr Leu Glu Asp Val Arg Thr Ser Gln Tyr	210	215	220
Thr Asn Val Val Val Ile Arg Ala Glu Asp Met Glu Asp Ser Arg Met	225	230	235
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      35           40           45

Lys Gln Arg Cys Leu Asn Leu Lys Asp Phe His Phe Tyr Asp Val Tyr
      50           55           60

Ala Pro Leu Ser Gln Ser Lys Glu Lys Lys Tyr Thr Phe Gln Glu Ala
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Val Asp Leu Ile Tyr Thr Ser Leu Ser Pro Leu Gly Thr Glu Tyr Ile
      85           90           95

Asp Thr Leu Lys Gln Gly Leu Thr Thr Gln Gly Trp Val Asp Lys Tyr
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Ser His Pro Tyr Val Leu
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<210> 40

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<212> DNA

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<210> 41
 <211> 608
 <212> PRT
 <213> Chlamydia psittaci

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 35 40 45
 Pro Thr Trp Pro Ala Leu Gln Ala Thr Gln Tyr Gln Leu Asp Asn Ser
 50 55 60
 Glu Ser Leu Leu Ser Leu Leu Thr Thr Leu Phe Ser Ile Glu Arg Lys
 65 70 75 80
 Leu Asn Lys Leu Tyr Val Tyr Ala His Leu Thr His Asp Gln Asp Ile
 85 90 95

Thr	Asn	Gln	Glu	Gly	Ile	Ala	Asp	Leu	Lys	Ser	Ile	Thr	His	Leu	His
			100					105					110		
Thr	Leu	Phe	Ala	Glu	Glu	Thr	Ser	Trp	Val	Gln	Pro	Ala	Leu	Thr	Ser
		115					120				125				
Leu	Ser	Glu	Ser	Leu	Ile	Ala	Gln	His	Leu	Ser	Ala	Pro	Cys	Leu	Ala
	130					135					140				
Pro	Tyr	Arg	Phe	Tyr	Leu	Glu	Lys	Ile	Phe	Arg	Leu	Ser	Ile	His	Thr
145					150					155					160
Gly	Thr	Pro	Gly	Glu	Glu	Lys	Ile	Leu	Ala	Ser	Ala	Phe	Thr	Pro	Leu
			165						170					175	
Glu	Val	Ala	Ser	Lys	Ala	Phe	Ser	Ser	Leu	Ser	Asp	Ser	Glu	Ile	Pro
		180						185					190		
Phe	Gly	Gln	Ala	Thr	Asp	Ser	Glu	Gly	Asn	Ser	His	Pro	Leu	Ser	His
	195						200					205			
Ala	Leu	Ala	Ser	Leu	Tyr	Met	Gln	Ser	Thr	Asp	Arg	Glu	Leu	Arg	Lys
	210					215					220				
Thr	Ser	Tyr	Leu	Ala	Gln	Cys	Glu	Arg	Tyr	His	Ser	Tyr	Arg	His	Thr
225					230					235					240
Phe	Ala	Asn	Leu	Leu	Asn	Gly	Lys	Ile	Gln	Ala	His	Val	Phe	Tyr	Ala
			245						250					255	
Lys	Asn	Lys	Arg	Tyr	Asn	Ser	Cys	Leu	Gln	Ala	Ala	Leu	Tyr	His	Asn
		260						265					270		
Asn	Ile	Pro	Thr	Thr	Val	Tyr	Thr	Asn	Leu	Ile	Asp	Ile	Val	Lys	Lys
	275						280					285			
Asn	Ser	Ser	Leu	Ile	Thr	Lys	Tyr	Phe	Ser	Ile	Lys	Gln	Arg	Cys	Leu
	290					295					300				
Asn	Leu	Lys	Asp	Phe	His	Phe	Tyr	Asp	Val	Tyr	Ala	Pro	Leu	Ser	Gln
305					310					315					320
Ser	Lys	Glu	Lys	Lys	Tyr	Thr	Phe	Gln	Glu	Ala	Val	Asp	Leu	Ile	Tyr
			325						330					335	
Thr	Ser	Leu	Ser	Pro	Leu	Gly	Thr	Glu	Tyr	Ile	Asp	Thr	Leu	Lys	Gln
		340						345					350		
Gly	Leu	Thr	Thr	Gln	Gly	Trp	Val	Asp	Lys	Tyr	Glu	Asn	Leu	Asn	Lys
	355						360					365			
Arg	Ser	Gly	Ala	Tyr	Ser	Ser	Gly	Cys	Tyr	Asp	Ser	His	Pro	Tyr	Val
	370					375					380				

Leu Leu Asn Tyr Thr Gly Thr Leu Tyr Asp Val Ser Val Ile Ala His
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 Glu Gly Gly His Ser Met His Ser Tyr Phe Ser Arg Lys His Gln Pro
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 420 425 430
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 435 440 445
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 450 455 460
 Ser Thr Leu Phe Arg Gln Val Leu Phe Ala Ser Phe Glu Tyr Asp Ile
 465 470 475 480
 His His Ala Ala Glu His Gly Val Pro Leu Thr Glu Glu Tyr Leu Ser
 485 490 495
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 Tyr Leu Asn Phe Leu Lys Ser Gly Gly Ser Asp Phe Pro Leu Glu Ile
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<211> 1517

<212> DNA

<213> Chlamydia psittaci

<400> 42

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aacttacaaa ccaaaaaaga agaagaacac gagtccgttg cccgtaagat ggtcaattgg 240
gtgtcttctg gagaagaagt gttaaataga gcccttctct acttctcaga taggaatgga 300
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agagcagaac tttttgctag tatcgtagga actacggtaa gtagtataaa gacgataatg 420
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actaggagaa cttactggag tcagcccttc ttcagagggt attcccacag gtctgccttt 720
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<210> 43

<211> 145

<212> PRT

<213> Chlamydia psittaci

<400> 43

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Arg Leu Trp Asp Ala Gln Ser Thr Leu Gln Gln Asp Gln Asn Lys Leu
 20              25              30

Ser Gln Glu His Phe Glu Ala Val Ser Val Ile Ile Asp Leu Ile Asn
 35              40              45

Gly Asp Leu Asn Asp Ile Ala Glu His Thr Gln Gln Asn Leu Gln Thr
 50              55              60

Lys Lys Glu Glu Glu His Glu Ser Val Ala Arg Lys Met Val Asn Trp
 65              70              75              80

Val Ser Ser Gly Glu Glu Val Leu Asn Arg Ala Leu Leu Tyr Phe Ser
 85              90              95

Asp Arg Asn Gly Glu Arg Glu Asn Leu Ala Asp Phe Leu Lys Val Gln
100              105              110

```

Tyr Ala Val Gln Arg Ala Thr Gln Arg Ala Glu Leu Phe Ala Ser Ile
 115 120 125

Val Gly Thr Thr Val Ser Ser Ile Lys Thr Ile Met Thr Thr Gln Leu
 130 135 140

Gly
 145

<210> 44
 <211> 669
 <212> DNA
 <213> Chlamydia psittaci

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 ttagggacgg cagcagactc cttgaataaa aatatagagg atgtcaagcc taaccctatg 180
 gcgatgatgc aagacagaaa ctctaacatt atcgatcctg aactggaaga ggcgttagat 240
 tcggaagagc tgaaagagca aataaacaat ctaaaagagc gtttatggga tgcacaatcc 300
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 attgatttaa tcaatgggtga tctgaatgat atagctgagc atacgcaaca aaacttacia 420
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 ggagaagaag tgttaaatag agcccttctc tactttctcag ataggaatgg agaacgggaa 540
 aatttagcag acttttttaa agtacagtat gctgttcaaa gagcaacgca aagagcagaa 600
 ctttttgcta gtatcgtagg aactacggta agtagtataa agacgataat gaccacacaa 660
 ttaggttaa 669

<210> 45
 <211> 222
 <212> PRT
 <213> Chlamydia psittaci

<400> 45
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 Thr Ala Ser Ile Gln Lys Pro Leu Gly Thr Pro Leu Ala Ser Glu Leu
 20 25 30
 His Lys Glu Val Pro Ala Phe Ser Leu Gly Thr Ala Ala Asp Ser Leu
 35 40 45
 Asn Lys Asn Ile Glu Asp Val Lys Pro Asn Pro Met Ala Met Met Gln
 50 55 60
 Asp Arg Asn Ser Asn Ile Ile Asp Pro Glu Leu Glu Glu Ala Leu Asp
 65 70 75 80
 Ser Glu Glu Leu Lys Glu Gln Ile Asn Asn Leu Lys Glu Arg Leu Trp
 85 90 95

Asp Ala Gln Ser Thr Leu Gln Gln Asp Gln Asn Lys Leu Ser Gln Glu
100 105 110

His Phe Glu Ala Val Ser Val Ile Ile Asp Leu Ile Asn Gly Asp Leu
115 120 125

Asn Asp Ile Ala Glu His Thr Gln Gln Asn Leu Gln Thr Lys Lys Glu
130 135 140

Glu Glu His Glu Ser Val Ala Arg Lys Met Val Asn Trp Val Ser Ser
145 150 155 160

Gly Glu Glu Val Leu Asn Arg Ala Leu Leu Tyr Phe Ser Asp Arg Asn
165 170 175

Gly Glu Arg Glu Asn Leu Ala Asp Phe Leu Lys Val Gln Tyr Ala Val
180 185 190

Gln Arg Ala Thr Gln Arg Ala Glu Leu Phe Ala Ser Ile Val Gly Thr
195 200 205

Thr Val Ser Ser Ile Lys Thr Ile Met Thr Thr Gln Leu Gly
210 215 220

<210> 46
<211> 1329
<212> DNA
<213> Chlamydia psittaci

<400> 46
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aatgtacgcg ttggggaggt atgcttagtt aaacgttatg gtatggagcc gctcgtgacc 180
gaagtcgtcg gcttcacaca aaatttcgct tttttatcgc cactaggaga acttactgga 240
gtcagccctt cttcagaggt tattcccaca ggtctgcctt tgtatatccg tgcaggtaac 300
gggtcttttag gtcgtgtatt gaatgggtctg ggagaacctt tcgactccga gatcaaagga 360
ccttttggttg atgttaacga aacctaccct gtgttttcgcg ctccaccaga tccattgcat 420
agagaaaaat taagaacaat tttatccacc ggcgtgcggt gtatcgacgg tatgctcaca 480
gtcgccagag gccagcgtat aggcattttt gctggagctg ggggtgggtaa atcgtctctc 540
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gagcggggcc gagagggttcg tgaatttatc gagggcgatc tcggagaaga aggaatgaaa 660
cgttcgggtga tcgtcgtctc tacttcagat caatcctcac agttgcgatt aaatgctgct 720
tacgtaggca ccgctatagc agagtatttt cgtgatcagg gcaaaaccgt agttttgatg 780
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gaggtgctgg caaaatacaa agcaaacgaa atgcttatac gtattggaga atatcgccga 1200
gggtccgatc gtgaagtgga ttttgctata gatcacattg ataaattgaa cagattctta 1260
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ttccgataa 1329

<210> 47
 <211> 442
 <212> PRT
 <213> Chlamydia psittaci

<400> 47

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Asp	Val	His	Leu	Thr	Thr	Val	Val	Gly	Arg	Ile	Thr	Glu	Val	Val	Gly
			20					25					30		
Met	Leu	Ile	Lys	Ala	Val	Val	Pro	Asn	Val	Arg	Val	Gly	Glu	Val	Cys
			35				40					45			
Leu	Val	Lys	Arg	Tyr	Gly	Met	Glu	Pro	Leu	Val	Thr	Glu	Val	Val	Gly
	50					55					60				
Phe	Thr	Gln	Asn	Phe	Ala	Phe	Leu	Ser	Pro	Leu	Gly	Glu	Leu	Thr	Gly
65					70					75					80
Val	Ser	Pro	Ser	Ser	Glu	Val	Ile	Pro	Thr	Gly	Leu	Pro	Leu	Tyr	Ile
				85					90					95	
Arg	Ala	Gly	Asn	Gly	Leu	Leu	Gly	Arg	Val	Leu	Asn	Gly	Leu	Gly	Glu
			100					105					110		
Pro	Ile	Asp	Ser	Glu	Ile	Lys	Gly	Pro	Leu	Val	Asp	Val	Asn	Glu	Thr
		115					120					125			
Tyr	Pro	Val	Phe	Arg	Ala	Pro	Pro	Asp	Pro	Leu	His	Arg	Glu	Lys	Leu
	130					135					140				
Arg	Thr	Ile	Leu	Ser	Thr	Gly	Val	Arg	Cys	Ile	Asp	Gly	Met	Leu	Thr
145					150					155					160
Val	Ala	Arg	Gly	Gln	Arg	Ile	Gly	Ile	Phe	Ala	Gly	Ala	Gly	Val	Gly
				165					170					175	
Lys	Ser	Ser	Leu	Leu	Gly	Met	Ile	Ala	Arg	Asn	Ala	Glu	Glu	Ala	Asp
			180					185					190		
Val	Asn	Val	Ile	Ala	Leu	Ile	Gly	Glu	Arg	Gly	Arg	Glu	Val	Arg	Glu
		195					200					205			
Phe	Ile	Glu	Gly	Asp	Leu	Gly	Glu	Glu	Gly	Met	Lys	Arg	Ser	Val	Ile
	210					215					220				
Val	Val	Ser	Thr	Ser	Asp	Gln	Ser	Ser	Gln	Leu	Arg	Leu	Asn	Ala	Ala
225					230					235					240
Tyr	Val	Gly	Thr	Ala	Ile	Ala	Glu	Tyr	Phe	Arg	Asp	Gln	Gly	Lys	Thr

245							250							255						
Val	Val	Leu	Met	Met	Asp	Ser	Val	Thr	Arg	Phe	Ala	Arg	Ala	Leu	Arg					
			260						265					270						
Glu	Val	Gly	Leu	Ala	Ala	Gly	Glu	Pro	Pro	Ala	Arg	Gly	Gly	Tyr	Thr					
		275						280					285							
Pro	Ser	Val	Phe	Ser	Thr	Leu	Pro	Arg	Leu	Leu	Glu	Arg	Ser	Gly	Ala					
		290						295				300								
Ser	Asp	Lys	Gly	Thr	Ile	Thr	Ala	Phe	Tyr	Thr	Val	Leu	Val	Ala	Gly					
305					310					315					320					
Asp	Asp	Met	Asn	Glu	Pro	Val	Ala	Asp	Glu	Val	Lys	Ser	Ile	Leu	Asp					
				325					330					335						
Gly	His	Val	Val	Leu	Ser	Asn	Ala	Leu	Ala	Gln	Ala	Tyr	His	Tyr	Pro					
			340					345					350							
Ala	Ile	Asp	Val	Leu	Ala	Ser	Ile	Ser	Arg	Leu	Leu	Thr	Ala	Ile	Val					
		355						360					365							
Pro	Glu	Glu	Gln	Arg	Arg	Ile	Ile	Gly	Lys	Ala	Arg	Glu	Val	Leu	Ala					
		370						375					380							
Lys	Tyr	Lys	Ala	Asn	Glu	Met	Leu	Ile	Arg	Ile	Gly	Glu	Tyr	Arg	Arg					
385					390					395				400						
Gly	Ser	Asp	Arg	Glu	Val	Asp	Phe	Ala	Ile	Asp	His	Ile	Asp	Lys	Leu					
				405					410				415							
Asn	Arg	Phe	Leu	Lys	Gln	Asp	Ile	His	Glu	Lys	Thr	Asn	Tyr	Glu	Glu					
			420					425					430							
Ala	Ser	Gln	Gln	Leu	Arg	Ala	Ile	Phe	Arg											
		435					440													

<210> 48
 <211> 477
 <212> DNA
 <213> Chlamydia psittaci

<400> 48
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 atcacctttg aacacataaa tcaattaaaa ccagcaaaca ctagctgttt tgctaataca 180
 gctggagatc taacgtttac tgggaatcga cgacttctct atttcaataa tatttcatca 240
 acagcgaaag gtgccgctat cagcacaact gcggatggta agacactcac aatatccggg 300
 gctctacaac tgattttcta catgtcgcca agattggcca cgggaaatgg cgtcatttat 360
 tctaatagct ctgtactcat cgagaacaat tctcaaggta gctcgggact gaataagtct 420
 gcagggaaag gcgtctttat ttgttgtgag aaaagtacgg atgtgggagc tacatca 477

<210> 49
 <211> 159
 <212> PRT
 <213> Chlamydia psittaci

<400> 49
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 20 25 30
 Thr Thr Tyr Ile Leu Gly Ser Ala Ile Thr Phe Glu His Ile Asn Gln
 35 40 45
 Leu Lys Pro Ala Asn Thr Ser Cys Phe Ala Asn Thr Ala Gly Asp Leu
 50 55 60
 Thr Phe Thr Gly Asn Arg Arg Leu Leu Tyr Phe Asn Asn Ile Ser Ser
 65 70 75 80
 Thr Ala Lys Gly Ala Ala Ile Ser Thr Thr Ala Asp Gly Lys Thr Leu
 85 90 95
 Thr Ile Ser Gly Ala Leu Gln Leu Ile Phe Tyr Met Ser Pro Arg Leu
 100 105 110
 Ala Thr Gly Asn Gly Val Ile Tyr Ser Asn Ser Ser Val Leu Ile Glu
 115 120 125
 Asn Asn Ser Gln Gly Ser Ser Gly Leu Asn Lys Ser Ala Gly Lys Gly
 130 135 140
 Val Phe Ile Cys Cys Glu Lys Ser Thr Asp Val Gly Ala Thr Ser
 145 150 155

<210> 50
 <211> 591
 <212> DNA
 <213> Chlamydia psittaci

<400> 50
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 gcgaaagggtg ccgctatcag cacaactgcg gatggtaaga cactcacaat atccgggggct 180
 ctacaactga ttttctacat gtcgccaaga ttggccacgg gaaatggcgt catttattct 240
 aatagctctg tactcatcga gaacaattct caaggtagct cgggactgaa taagtctgca 300
 gggaaaggcg tctttatttg ttgtgagaaa agtacggatg tgggagctac atcaccgaca 360
 ttaatcatac ggaataacgg agagtttctt actgtaggta atgcagctac tagctctgga 420
 ggagcgattt atgcggagaa aatgatctta tcctcaggag gatatacaaa atttcaatcc 480
 aatgttagct atgatcaagg tggggccatt gccattgctc ctaatggaga aattagtctc 540
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<210> 51
 <211> 197
 <212> PRT
 <213> Chlamydia psittaci

<400> 51
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 20 25 30
 Tyr Phe Asn Asn Ile Ser Ser Thr Ala Lys Gly Ala Ala Ile Ser Thr
 35 40 45
 Thr Ala Asp Gly Lys Thr Leu Thr Ile Ser Gly Ala Leu Gln Leu Ile
 50 55 60
 Phe Tyr Met Ser Pro Arg Leu Ala Thr Gly Asn Gly Val Ile Tyr Ser
 65 70 75 80
 Asn Ser Ser Val Leu Ile Glu Asn Asn Ser Gln Gly Ser Ser Gly Leu
 85 90 95
 Asn Lys Ser Ala Gly Lys Gly Val Phe Ile Cys Cys Glu Lys Ser Thr
 100 105 110
 Asp Val Gly Ala Thr Ser Pro Thr Leu Ile Ile Arg Asn Asn Gly Glu
 115 120 125
 Phe Leu Thr Val Gly Asn Ala Ala Thr Ser Ser Gly Gly Ala Ile Tyr
 130 135 140
 Ala Glu Lys Met Ile Leu Ser Ser Gly Gly Tyr Thr Lys Phe Gln Ser
 145 150 155 160
 Asn Val Ser Tyr Asp Gln Gly Gly Ala Ile Ala Ile Ala Pro Asn Gly
 165 170 175
 Glu Ile Ser Leu Ser Ala Asp Lys Gly Asn Ile Val Phe Glu Arg Asn
 180 185 190
 Leu Lys Ile Ala Asn
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<210> 52
 <211> 2040
 <212> DNA
 <213> Chlamydia psittaci

<400> 52

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aacggctcca ctagtgaaac tttcaatgtt aaacaaacag ataatgctga cgggacaaca 180
tatattctag gcagcgcgat cacctttgaa cacataaatc aattaaaacc agcaaacact 240
agctgttttg ctaatacagc tggagatcta acgtttactg ggaatcgacg acttctctat 300
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ggaaatggcg tcattttattc taatagctct gtactcatcg agaacaattc tcaaggtagc 480
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cctaattggag aaattagtct ctccgcggat aaaggaaata tcgtctttga aagaaacctt 780
aaaattgcca acaaacaaaa tactcccaat gccattcacc taggagacaa tgcgaaattt 840
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<210> 53

<211> 679

<212> PRT

<213> Chlamydia psittaci

<400> 53

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Ser Ser Phe Ala Leu Ser Thr Ala Thr Lys Leu Leu Ala Asp Ala Asp
      20             25            30

Ser Val Asn Leu Ala Thr Gly Phe Asn Gly Ser Thr Ser Glu Thr Phe
      35             40            45

Asn Val Lys Gln Thr Asp Asn Ala Asp Gly Thr Thr Tyr Ile Leu Gly
      50             55            60

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Ser	Ala	Ile	Thr	Phe	Glu	His	Ile	Asn	Gln	Leu	Lys	Pro	Ala	Asn	Thr	65	70	75	80
Ser	Cys	Phe	Ala	Asn	Thr	Ala	Gly	Asp	Leu	Thr	Phe	Thr	Gly	Asn	Arg	85	90	95	
Arg	Leu	Leu	Tyr	Phe	Asn	Asn	Ile	Ser	Ser	Thr	Ala	Lys	Gly	Ala	Ala	100	105	110	
Ile	Ser	Thr	Thr	Ala	Asp	Gly	Lys	Thr	Leu	Thr	Ile	Ser	Gly	Ala	Leu	115	120	125	
Gln	Leu	Ile	Phe	Tyr	Met	Ser	Pro	Arg	Leu	Ala	Thr	Gly	Asn	Gly	Val	130	135	140	
Ile	Tyr	Ser	Asn	Ser	Ser	Val	Leu	Ile	Glu	Asn	Asn	Ser	Gln	Gly	Ser	145	150	155	160
Ser	Gly	Leu	Asn	Lys	Ser	Ala	Gly	Lys	Gly	Val	Phe	Ile	Cys	Cys	Glu	165	170	175	
Lys	Ser	Thr	Asp	Val	Gly	Ala	Thr	Ser	Pro	Thr	Leu	Ile	Ile	Arg	Asn	180	185	190	
Asn	Gly	Glu	Phe	Leu	Thr	Val	Gly	Asn	Ala	Ala	Thr	Ser	Ser	Gly	Gly	195	200	205	
Ala	Ile	Tyr	Ala	Glu	Lys	Met	Ile	Leu	Ser	Ser	Gly	Gly	Tyr	Thr	Lys	210	215	220	
Phe	Gln	Ser	Asn	Val	Ser	Tyr	Asp	Gln	Gly	Gly	Ala	Ile	Ala	Ile	Ala	225	230	235	240
Pro	Asn	Gly	Glu	Ile	Ser	Leu	Ser	Ala	Asp	Lys	Gly	Asn	Ile	Val	Phe	245	250	255	
Glu	Arg	Asn	Leu	Lys	Ile	Ala	Asn	Lys	Gln	Asn	Thr	Pro	Asn	Ala	Ile	260	265	270	
His	Leu	Gly	Asp	Asn	Ala	Lys	Phe	Leu	Gln	Leu	Arg	Ala	Ala	Asn	Asn	275	280	285	
Lys	Ala	Ile	Phe	Phe	Tyr	Asp	Pro	Ile	Thr	Thr	Thr	Gly	Ser	Val	Ala	290	295	300	
Asp	Arg	Leu	Ile	Ile	Asn	Asn	Ser	Gln	Gly	Glu	Ala	Ser	Thr	Tyr	Asp	305	310	315	320
Gly	Ala	Ile	Val	Phe	Ser	Ser	Leu	Asn	Leu	Phe	Thr	His	Ser	Pro	Glu	325	330	335	
Cys	Lys	Leu	Ser	Ser	Phe	Ser	Gln	Gly	Leu	Thr	Leu	Ala	Ala	Gly	Ser	340	345	350	

Leu	Val	Leu	Glu	Glu	Gly	Val	Cys	Val	Gln	Ala	Pro	Ser	Phe	Asp	Gln	355	360	365	
Arg	Ala	His	Ser	Gln	Leu	Phe	Met	Asn	Pro	Gly	Thr	Lys	Leu	Gln	Ala	370	375	380	
Thr	Gln	Asn	Ile	Ser	Val	Lys	Asn	Leu	His	Leu	Asn	Leu	Asn	Arg	Ile	385	390	395	400
Ala	Glu	Glu	Pro	Ala	Tyr	Ile	Thr	Thr	Thr	Asp	Asp	Ala	Ser	Ser	Val	405	410	415	
Asp	Ile	Cys	Gly	Pro	Val	Val	Met	His	Ile	Asp	Asp	Glu	Ile	Phe	Tyr	420	425	430	
Asn	Gln	Thr	Val	Leu	Ala	Asn	Glu	Leu	Ser	Val	Glu	Cys	Leu	Asn	Leu	435	440	445	
Ser	Ser	Pro	His	Leu	Asp	Asn	Ile	Thr	Ile	Asp	Asp	Val	Pro	Ala	Val	450	455	460	
Pro	Ile	Met	Thr	Leu	Glu	Ser	His	Arg	Gly	Tyr	Gln	Gly	Thr	Trp	Glu	465	470	475	480
Ile	Ser	Trp	Lys	Glu	Gln	Pro	Lys	Leu	Thr	Phe	Gly	Lys	Ala	Thr	Ile	485	490	495	
Ala	Pro	Asn	Lys	Gln	Met	His	Leu	Ile	Trp	Lys	Pro	Ser	Gly	Tyr	Val	500	505	510	
Pro	Phe	Ser	Gly	Gly	Thr	Gly	Glu	Phe	Thr	Thr	Ser	Leu	Val	Pro	Asn	515	520	525	
Ser	Leu	Trp	Asn	Leu	Phe	Leu	Asp	Thr	Arg	Phe	Ser	Gln	Gln	Ala	Ile	530	535	540	
Glu	Lys	His	Ala	Val	Ser	Ser	Gly	Asn	Gly	Ile	Trp	Ile	Ser	Ser	Met	545	550	555	560
Thr	Asn	Ser	Phe	Leu	Gln	Gly	Ser	Thr	Asn	Asn	Asn	His	Gly	Phe	Arg	565	570	575	
His	Lys	Ser	Ser	Gly	Tyr	Thr	Ala	Gly	Gly	Lys	Ile	Gln	Thr	Leu	Gln	580	585	590	
Asp	Asp	Ile	Phe	Ser	Val	Ser	Phe	Ser	Gln	Leu	Phe	Gly	Arg	Ser	Lys	595	600	605	
Asp	Phe	Gly	Ser	Ala	Thr	Ser	Lys	Asp	Thr	Phe	Leu	Ser	Gly	Ser	Ile	610	615	620	
Tyr	Ala	Gln	His	Ser	Arg	Arg	Leu	Leu	Pro	Ile	Met	Arg	Phe	Leu	Ala	625	630	635	640

Gly Thr Ser Thr Tyr Arg Pro Arg Leu Leu Leu Ser Ile Pro Lys Asn
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His Met Lys Val Gln Lys Phe
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<210> 54

<211> 487

<212> DNA

<213> Chlamydia psittaci

<400> 54

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<210> 55

<211> 162

<212> PRT

<213> Chlamydia psittaci

<400> 55

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20 25 30

Gly Ser Val Tyr Tyr Gln His Val Ser Lys Phe Asp Asp Leu Thr Arg
35 40 45

Leu Phe Asn Gly Pro Asn Thr Cys Cys Ser Gly Phe Ser Lys Glu Ile
50 55 60

Pro Ile Phe Leu Asp Ala Gln Ile Thr Tyr Cys His Thr Ala Asn Asn
65 70 75 80

Met Thr Thr Ser Tyr Thr Asp Tyr Pro Glu Val Lys Gly Ser Trp Gly
85 90 95

Asn Asp Thr Leu Gly Leu Thr Leu Ser Thr Ser Val Pro Ile Pro Val
100 105 110

Phe Ser Ser Ser Ile Phe Asp Ser Tyr Ala Pro Phe Ala Lys Leu Gln
 115 120 125

Val Val Tyr Ala His Gln Asp Asp Phe Lys Glu Pro Thr Thr Glu Gly
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Arg Val Phe Glu Ser Ser Asp Leu Leu Asn Val Ser Val Pro Ile Gly
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Ile Lys

<210> 56

<211> 2781

<212> DNA

<213> Chlamydia psittaci

<400> 56

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<210> 57

<211> 926

<212> PRT

<213> Chlamydia psittaci

<400> 57

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Gln Glu Ser Ile Leu Asp Ala Asn Gly Ala Phe Ser Pro Gln Ser Thr
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Ser Thr Ala Gly Gly Thr Ile Tyr Asn Val Glu Ser Asp Ile Ser Ile
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Val Asp Val Gly Gln Thr Ala Ala Leu Ala Ser Ser Ala Phe Val Gln
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Thr Ala Asp Asn Leu Thr Phe Lys Gly Asn Asn His Ser Leu Ser Ile
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Thr Asn Ala Asn Ala Gly Ala Asn Pro Ala Gly Ile Asn Val Asn Thr
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Ala Asp Lys Ile Leu Thr Leu Thr Asp Phe Ser Lys Leu Ser Phe Lys
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Glu Cys Pro Ser Ser Leu Val Asn Thr Gly Lys Gly Ala Met Lys Ser
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Gly Gly Ala Leu Asn Leu Ala Asn Asn Ala Ser Ile Leu Phe Asp Gln
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Leu Thr Gly Ser Ser Lys Glu Ile Ser Phe Thr Thr Asn Ser Thr Ala

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Gly	Ala	Val	Tyr	Ser	Glu	Ala	Ser	Met	Thr	Ile	Ala	Gly	Asn	Asn	His		
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Val	Ala	Phe	Ser	Asn	Asn	Ala	Val	Ser	Gly	Ser	Ser	Asp	Gly	Cys	Gly		
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Gly	Ala	Ile	His	Cys	Ser	Lys	Thr	Gly	Ser	Ala	Pro	Thr	Leu	Thr	Ile		
			260					265					270				
Arg	Asp	Asn	Lys	Val	Leu	Ile	Phe	Glu	Glu	Asn	Thr	Ser	Ser	Ala	Lys		
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Gly	Gly	Ala	Ile	Tyr	Thr	Asp	Lys	Leu	Ile	Leu	Thr	Ser	Gly	Gly	Pro		
	290					295					300						
Thr	Ala	Phe	Ile	Asn	Asn	Lys	Val	Thr	His	Ala	Thr	Pro	Lys	Gly	Gly		
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Gly	Asp	Ile	Thr	Phe	Asp	Asn	Asn	Leu	Met	Ala	Thr	Gln	Asp	Asn	Ala		
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Thr	Ile	Lys	Arg	Asn	Ala	Ile	Asn	Ile	Glu	Gly	Asn	Gly	Lys	Phe	Val		
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Thr	Val	Glu	Gly	Asn	Ala	Ala	Asp	Leu	Leu	Thr	Leu	Asn	Lys	Ala	Glu		
385					390					395					400		
Gly	Asp	Lys	Thr	Tyr	Asn	Gly	Arg	Ile	Ile	Phe	Ser	Gly	Glu	Lys	Leu		
				405					410					415			
Thr	Glu	Glu	Gln	Ala	Ala	Val	Ala	Asp	Asn	Leu	Lys	Thr	Thr	Phe	Thr		
			420					425					430				
Gln	Pro	Ile	Thr	Leu	Ala	Ala	Gly	Glu	Leu	Val	Leu	Arg	Ser	Gly	Val		
		435					440					445					
Glu	Val	Glu	Ala	Lys	Thr	Val	Val	Gln	Thr	Ala	Gly	Ser	Leu	Ile	Leu		
	450					455					460						
Met	Asp	Ala	Gly	Thr	Lys	Leu	Ser	Ala	Lys	Thr	Glu	Asp	Ala	Thr	Leu		

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Thr Asn Leu Ala	Ile Asn Pro Asn Thr	Leu Asp Gly Lys Lys	Phe Ala			
	485	490	495			
Val Val Asp Ala	Val Ala Ala Gly Lys	Asn Val Thr Leu Ser	Gly Ala			
	500	505	510			
Ile Gly Val Ile	Asp Pro Thr Gly Lys	Phe Tyr Glu Asn His	Lys Leu			
	515	520	525			
Asn Asp Thr Leu	Ala Leu Gly Gly Ile	Gln Leu Ser Gly Lys	Gly Ser			
	530	535	540			
Val Thr Thr Thr	Asn Val Pro Ser His	Val Val Gly Val Ala	Glu Thr			
545	550	555	560			
His Tyr Gly Tyr	Gln Gly Asn Trp Ser	Val Ser Trp Val Lys	Asp Asn			
	565	570	575			
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	580	585	590			
Gly Tyr Val Pro	Asn Pro Glu Arg Arg	Ala Pro Leu Val Leu	Asn Ser			
	595	600	605			
Leu Trp Gly Ser	Phe Ile Asp Leu Arg	Ser Ile Gln Asp Val	Leu Glu			
	610	615	620			
Arg Ser Val Asp	Ser Ile Leu Glu Thr	Arg Arg Gly Leu Trp	Val Ser			
625	630	635	640			
Gly Ile Gly Asn	Phe Phe His Lys Asp	Arg Asn Ala Glu Asn	Arg Lys			
	645	650	655			
Phe Arg His Ile	Ser Ser Gly Tyr Val	Leu Gly Ala Thr Thr	Asn Thr			
	660	665	670			
Ser Arg Glu Asp	Ser Leu Ser Val Ala	Phe Cys Gln Leu Phe	Ala Lys			
	675	680	685			
Asp Lys Asp Tyr	Leu Val Ser Lys Asn	Ala Ala Asn Val Tyr	Ala Gly			
	690	695	700			
Ser Val Tyr Tyr	Gln His Val Ser Lys	Phe Asp Asp Leu Thr	Arg Leu			
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Phe Asn Gly Pro	Asn Thr Cys Cys Ser	Gly Phe Ser Lys Glu	Ile Pro			
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Ile Phe Leu Asp	Ala Gln Ile Thr Tyr	Cys His Thr Ala Asn	Asn Met			
	740	745	750			
Thr Thr Ser Tyr	Thr Asp Tyr Pro Glu	Val Lys Gly Ser Trp	Gly Asn			

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Ser Ser Ser Ile Phe Asp Ser Tyr Ala Pro Phe Ala Lys Leu Gln Val 785 790 795 800		
Val Tyr Ala His Gln Asp Asp Phe Lys Glu Pro Thr Thr Glu Gly Arg 805 810 815		
Val Phe Glu Ser Ser Asp Leu Leu Asn Val Ser Val Pro Ile Gly Ile 820 825 830		
Lys Phe Glu Lys Leu Ser Tyr Gly Glu Arg Ser Ala Tyr Asp Leu Thr 835 840 845		
Leu Met Tyr Ile Pro Asp Val Tyr Arg His Asn Pro Ser Cys Met Thr 850 855 860		
Gly Leu Ala Ile Asn Asp Val Ser Trp Leu Thr Thr Ala Thr Asn Leu 865 870 875 880		
Ala Arg Gln Ala Phe Ile Val Arg Ala Gly Asn His Ile Ala Leu Thr 885 890 895		
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 <211> 559
 <212> DNA
 <213> Chlamydia psittaci

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 <212> PRT

<213> Chlamydia psittaci

<400> 59

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35 40 45

Ile Ile Glu Ile Val Phe Leu Ala Leu Pro Phe Thr Cys His Ala Ile
50 55 60

Leu Gly Ile Phe Tyr Leu Phe Gln Ala Gln Thr Asn Ser Arg Ala Ser
65 70 75 80

Asp Gly Arg Lys Pro Ala Leu Ile Tyr Ala Arg Asn Leu Ala Tyr Thr
85 90 95

Trp Gln Arg Arg Thr Ala Trp Ile Leu Leu Phe Gly Leu Ile Phe His
100 105 110

Val Val Gln Phe Arg Phe Leu Arg Tyr Pro Ile His Val Glu Leu His
115 120 125

Gly Gln Thr Tyr Tyr Val Val Asp Ile Asp Ala Ser Arg Tyr Ala Ala
130 135 140

Ile Val Arg Gly Thr Gln Gly Phe Phe Thr Ile Asn Phe Ser Ala Pro
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Gln Leu Glu Thr Ile Arg Leu Asp Lys Glu Asp Leu Asp Gly Ser Ala
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Val Ser Gln Leu Leu Asp Arg Lys Ala Tyr
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<211> 687

<212> DNA

<213> Chlamydia psittaci

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35 40 45
Ala Ser Ser Tyr Phe Lys Glu Gly Ser Gly Phe Val Gln Leu Val Ser
50 55 60
Lys Phe His Gln Ile Pro Gly Leu Lys Ile Ile Glu Ile Val Phe Leu
65 70 75 80
Ala Leu Pro Phe Thr Cys His Ala Ile Leu Gly Ile Phe Tyr Leu Phe
85 90 95
Gln Ala Gln Thr Asn Ser Arg Ala Ser Asp Gly Arg Lys Pro Ala Leu
100 105 110
Ile Tyr Ala Arg Asn Leu Ala Tyr Thr Trp Gln Arg Arg Thr Ala Trp
115 120 125
Ile Leu Leu Phe Gly Leu Ile Phe His Val Val Gln Phe Arg Phe Leu
130 135 140
Arg Tyr Pro Ile His Val Glu Leu His Gly Gln Thr Tyr Tyr Val Val
145 150 155 160
Asp Ile Asp Ala Ser Arg Tyr Ala Ala Ile Val Arg Gly Thr Gln Gly
165 170 175
Phe Phe Thr Ile Asn Phe Ser Ala Pro Gln Leu Glu Thr Ile Arg Leu
180 185 190
Asp Lys Glu Asp Leu Asp Gly Ser Ala Val Ser Gln Leu Leu Asp Arg
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210 215 220

Phe Gly Ile Leu
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<211> 1329
<212> DNA
<213> Chlamydia psittaci

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<210> 63
<211> 442
<212> PRT
<213> Chlamydia psittaci

<400> 63
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Asn Ala Leu Val Phe Asn Arg Ala Ala His Ala Tyr Leu Phe Ser Gly
35 40 45
Ile Arg Gly Thr Gly Lys Thr Thr Leu Ala Arg Ile Leu Ala Lys Ala
50 55 60
Leu Asn Cys Val His Leu Ser Glu Asp Gly Glu Pro Cys Asn Gln Cys

65						70						75						80
Phe	Ser	Cys	Lys	Glu	Ile	Ala	Ser	Gly	Ser	Ser	Leu	Asp	Val	Leu	Glu			
				85					90					95				
Ile	Asp	Gly	Ala	Ser	His	Arg	Gly	Ile	Glu	Asp	Ile	Arg	Gln	Ile	Asn			
			100					105					110					
Glu	Thr	Val	Leu	Phe	Thr	Pro	Val	Lys	Ala	Lys	Phe	Lys	Ile	Tyr	Ile			
			115					120					125					
Ile	Asp	Glu	Val	His	Met	Leu	Thr	Lys	Glu	Ala	Phe	Asn	Ala	Leu	Leu			
			130					135				140						
Lys	Thr	Leu	Glu	Glu	Pro	Pro	Gln	His	Val	Lys	Phe	Phe	Phe	Ala	Thr			
						150					155				160			
Thr	Glu	Ile	His	Lys	Ile	Pro	Gly	Thr	Ile	Leu	Ser	Arg	Cys	Gln	Lys			
				165						170				175				
Met	His	Leu	Gln	Arg	Ile	Pro	Glu	Lys	Thr	Ile	Leu	Glu	Lys	Leu	Ser			
			180					185					190					
Leu	Met	Ala	Gln	Asp	Asp	His	Ile	Glu	Ala	Ser	Gln	Glu	Ala	Leu	Ala			
			195					200					205					
Pro	Ile	Ala	Arg	Ala	Ala	Gln	Gly	Ser	Leu	Arg	Asp	Ala	Glu	Ser	Leu			
			210				215				220							
Tyr	Asp	Tyr	Val	Ile	Ser	Leu	Phe	Pro	Lys	Ser	Leu	Ser	Pro	Asp	Thr			
			225			230				235				240				
Val	Ala	Gln	Ala	Leu	Gly	Phe	Ala	Ser	Gln	Asp	Ser	Leu	Arg	Thr	Leu			
				245					250					255				
Asp	Asn	Ala	Ile	Leu	Gln	Arg	Asp	Tyr	Ala	Thr	Ala	Leu	Gly	Ile	Val			
			260					265					270					
Thr	Asp	Phe	Leu	Asn	Ser	Gly	Val	Ala	Pro	Val	Thr	Phe	Leu	His	Asp			
			275					280					285					
Leu	Thr	Leu	Phe	Tyr	Arg	Asn	Leu	Leu	Leu	Thr	Asn	Ser	Thr	Thr	Ser			
			290				295				300							
Lys	Phe	Ser	Ser	Gln	Tyr	Lys	Thr	Glu	Gln	Leu	Leu	Glu	Ile	Ile	Asp			
					310					315					320			
Phe	Leu	Gly	Glu	Ser	Ala	Lys	His	Leu	Gln	Asn	Thr	Ile	Phe	Glu	Gln			
				325					330					335				
Thr	Phe	Leu	Glu	Thr	Val	Ile	Ile	His	Ile	Ile	Arg	Ile	Tyr	Gln	Arg			
			340					345					350					
Pro	Val	Leu	Ser	Glu	Leu	Ile	Ser	Ser	Ile	Lys	Ser	Arg	Gln	Phe	Glu			

355	360	365
Gly Leu Arg Asn Ile Lys Glu Pro Thr Leu Thr Gln Gln Val Ser Ala		
370	375	380
Pro Gln Pro Gln Pro Thr Tyr Lys Glu Gln Ser Phe Leu Glu Lys Lys		
385	390	395 400
Asn Gln Pro Ala Ala Glu Gly Lys Ile Ile Ser Val Glu Val Lys Ser		
405	410	415
Ser Ala Ser Ile Lys Ser Ala Ala Val Asp Thr Leu Leu Gln Phe Ala		
420	425	430
Val Val Glu Phe Ser Gly Ile Leu Arg Gln		
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<210> 64
 <211> 1479
 <212> DNA
 <213> Chlamydia psittaci

<400> 64

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cacgttacag	gcctgaagac	aacatgcgcc	tctcgtgtgc	tcgagaatta	tcaaccaccg	300
tttgatgcta	ctgttgtaga	aagaatcaaa	aaagaagatg	ggattatctt	aggcaaactc	360
aatatggatg	agtttgctat	gggatcaaca	acgctatatt	ctgcttttca	tcctaccac	420
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gctgtatcta	tatattacat	tttagcatct	gctgaagctg	ccacgaattt	agcaagggttc	960
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<210> 65
 <211> 492
 <212> PRT

<213> Chlamydia psittaci

<400> 65

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20 25 30

Glu Ala Glu Gly Gln Val Gly Ala Phe Ile Ser Leu Cys Lys Glu Gln
35 40 45

Ala Leu Glu Gln Ala Glu Leu Ile Asp Lys Lys Arg Ser Arg Gly Glu
50 55 60

Pro Leu Gly Lys Leu Ala Gly Val Pro Val Gly Ile Lys Asp Asn Ile
65 70 75 80

His Val Thr Gly Leu Lys Thr Thr Cys Ala Ser Arg Val Leu Glu Asn
85 90 95

Tyr Gln Pro Pro Phe Asp Ala Thr Val Val Glu Arg Ile Lys Lys Glu
100 105 110

Asp Gly Ile Ile Leu Gly Lys Leu Asn Met Asp Glu Phe Ala Met Gly
115 120 125

Ser Thr Thr Leu Tyr Ser Ala Phe His Pro Thr His Asn Pro Trp Asp
130 135 140

Leu Ser Arg Val Pro Gly Gly Ser Ser Gly Gly Ser Ala Ala Ala Val
145 150 155 160

Ser Ala Arg Phe Cys Pro Val Ala Leu Gly Ser Asp Thr Gly Gly Ser
165 170 175

Ile Arg Gln Pro Ala Ala Phe Cys Gly Val Val Gly Phe Lys Pro Ser
180 185 190

Tyr Gly Ala Val Ser Arg Tyr Gly Leu Val Ala Phe Ala Ser Ser Leu
195 200 205

Asp Gln Ile Gly Pro Leu Ala Asn Thr Val Glu Asp Val Ala Leu Met
210 215 220

Met Asp Val Phe Ser Gly Arg Asp Pro Lys Asp Ala Thr Ser Arg Glu
225 230 235 240

Phe Phe Arg Asp Ser Phe Met Ser Lys Leu Ser Thr Glu Val Pro Lys
245 250 255

Val Ile Gly Val Pro Arg Thr Phe Leu Glu Gly Leu Arg Asp Asp Ile
260 265 270

Arg Glu Asn Phe Phe Ser Ser Leu Ala Ile Phe Glu Gly Glu Gly Thr
275 280 285

His Leu Val Asp Val Glu Leu Asp Ile Leu Ser His Ala Val Ser Ile
290 295 300

Tyr Tyr Ile Leu Ala Ser Ala Glu Ala Ala Thr Asn Leu Ala Arg Phe
305 310 315 320

Asp Gly Val Arg Tyr Gly Tyr Arg Ser Pro Gln Ala His Thr Ile Ser
325 330 335

Gln Leu Tyr Asp Leu Ser Arg Gly Glu Gly Phe Gly Lys Glu Val Met
340 345 350

Arg Arg Ile Leu Leu Gly Asn Tyr Val Leu Ser Ala Glu Arg Gln Asn
355 360 365

Val Tyr Tyr Lys Lys Ala Thr Ala Val Arg Ala Lys Ile Val Lys Ala
370 375 380

Phe Arg Thr Ala Phe Glu Lys Cys Glu Ile Leu Ala Met Pro Val Cys
385 390 395 400

Ser Ser Pro Ala Phe Glu Ile Gly Glu Ile Leu Asp Pro Val Thr Leu
405 410 415

Tyr Leu Gln Asp Ile Tyr Thr Val Ala Met Asn Leu Ala Tyr Leu Pro
420 425 430

Ala Ile Ala Val Pro Ser Gly Phe Ser Lys Glu Gly Leu Pro Leu Gly
435 440 445

Leu Gln Ile Ile Gly Gln Gln Gly Gln Asp Gln Gln Val Cys Gln Val
450 455 460

Gly Tyr Ser Phe Gln Glu His Ala Gln Ile Lys Gln Leu Phe Ser Lys
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Arg Tyr Ala Lys Ser Val Val Leu Gly Gly Gln Ser
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<210> 66

<211> 1962

<212> DNA

<213> Chlamydia psittaci

<400> 66

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tttaatcata ttctggaagg ggacgttgga gagagaaagc tgttgcggtc tcctttgaac 660
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<210> 67

<211> 653

<212> PRT

<213> Chlamydia psittaci

<400> 67

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Met Ser Tyr Arg Lys Arg Ser Thr Leu Ile Val Leu Gly Val Phe Ala
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Leu Tyr Ala Leu Leu Val Leu Arg Tyr Tyr Lys Ile Gln Ile Cys Glu
          20             25             30

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Gly Asp His Trp Ala Ala Glu Ala Leu Gly Gln His Glu Phe Cys Val
          35             40             45

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Arg Asp Pro Phe Arg Arg Gly Thr Phe Phe Ala Asn Thr Thr Val Arg
          50             55             60

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Lys Gly Asp Lys Asp Leu Gln Gln Pro Phe Ala Val Asp Ile Thr Lys
          65             70             75             80

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Phe His Leu Cys Ala Asp Pro Leu Ala Ile Pro Glu Cys His Arg Asp
          85             90             95

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25103618.1

Glu Ile Ile Gln Gly Ile Leu Gln Phe Ile Glu Gly Gln Thr Tyr Asp
100 105 110

Asp Leu Ser Leu Lys Leu Asp Lys Lys Ser Arg Tyr Cys Lys Leu Tyr
115 120 125

Pro Leu Leu Asp Val Ser Val His Asp Arg Leu Ser Leu Trp Trp Lys
130 135 140

Gly Tyr Ala Thr Lys His Arg Leu Pro Thr Asn Ala Leu Phe Phe Ile
145 150 155 160

Thr Asp Tyr Gln Arg Ser Tyr Pro Phe Gly Lys Leu Leu Gly Gln Val
165 170 175

Leu His Thr Leu Arg Glu Ile Lys Asp Glu Lys Thr Gly Lys Ala Phe
180 185 190

Pro Thr Gly Gly Met Glu Ala Tyr Phe Asn His Ile Leu Glu Gly Asp
195 200 205

Val Gly Glu Arg Lys Leu Leu Arg Ser Pro Leu Asn Arg Leu Asp Thr
210 215 220

Asn Arg Val Ile Lys Leu Pro Lys Asp Gly Ser Asp Ile Tyr Leu Thr
225 230 235 240

Ile Asn Pro Val Ile Gln Thr Ile Ala Glu Glu Glu Leu Glu Arg Gly
245 250 255

Val Leu Glu Ala Lys Ala Gln Gly Gly Arg Leu Ile Leu Met Asn Ser
260 265 270

Gln Thr Gly Glu Ile Leu Ala Leu Ala Gln Tyr Pro Phe Phe Asp Pro
275 280 285

Thr Asn Tyr Lys Glu Tyr Phe Asn Asn Lys Glu Arg Ile Glu His Thr
290 295 300

Lys Val Ser Phe Val Ser Asp Val Phe Glu Pro Gly Ser Ile Met Lys
305 310 315 320

Pro Leu Thr Val Ala Ile Ala Leu Gln Ala Asn Glu Glu Ala Ser Leu
325 330 335

Lys Ser Gln Lys Lys Ile Phe Asp Pro Glu Glu Pro Ile Asp Val Thr
340 345 350

Arg Thr Leu Phe Pro Gly Arg Lys Gly Ser Pro Leu Lys Asp Ile Ser
355 360 365

Arg Asn Ser Gln Leu Asn Met Tyr Met Ala Ile Gln Lys Ser Ser Asn
370 375 380

Val Tyr Val Ala Gln Leu Ala Asp Arg Ile Ile Gln Ser Leu Gly Val
385 390 395 400

Ala Trp Tyr Gln Gln Lys Leu Leu Ala Leu Gly Phe Gly Arg Lys Thr
405 410 415

Gly Ile Glu Leu Pro Ser Glu Ala Ser Gly Leu Val Pro Ser Pro His
420 425 430

Arg Phe His Ile Asn Gly Ser Leu Glu Trp Ser Leu Ser Thr Pro Tyr
435 440 445

Ser Leu Ala Met Gly Tyr Asn Ile Leu Ala Thr Gly Ile Gln Met Val
450 455 460

Gln Ala Tyr Ala Ile Leu Ala Asn Gly Gly Tyr Ala Val Arg Pro Thr
465 470 475 480

Leu Val Lys Lys Ile Val Ser Ala Ser Gly Glu Glu Tyr His Leu Pro
485 490 495

Thr Lys Glu Lys Thr Arg Leu Phe Ser Glu Glu Ile Thr Arg Glu Val
500 505 510

Val Arg Ala Met Arg Phe Thr Thr Leu Pro Gly Gly Ser Gly Phe Arg
515 520 525

Ala Ser Pro Lys His His Ser Ser Ala Gly Lys Thr Gly Thr Thr Glu
530 535 540

Lys Met Ile His Gly Lys Tyr Asp Lys Arg Arg His Ile Ala Ser Phe
545 550 555 560

Ile Gly Phe Thr Pro Val Glu Ser Ser Glu Gly Asn Phe Pro Pro Leu
565 570 575

Val Met Leu Val Ser Ile Asp Asp Pro Glu Tyr Gly Leu Arg Ala Asp
580 585 590

Gly Thr Lys Asn Tyr Met Gly Gly Arg Cys Ala Ala Pro Ile Phe Ser
595 600 605

Arg Val Ala Asp Arg Thr Leu Leu Tyr Leu Gly Ile Leu Pro Asp Lys
610 615 620

Lys Leu Arg Asn Cys Asp Glu Glu Ala Ala Ala Leu Lys Arg Leu Tyr
625 630 635 640

Glu Glu Trp Asn Arg Ser Pro Lys Gln Gly Gly Thr Arg
645 650

<210> 68
<211> 819

<212> DNA

<213> Chlamydia psittaci

<400> 68

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<210> 69

<211> 272

<212> PRT

<213> Chlamydia psittaci

<400> 69

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Ser Cys His Lys Glu Asp Ala Gln Asn Lys Ile Arg Ile Val Ala Ser
          20                      25                      30

Pro Thr Pro His Ala Glu Leu Leu Glu Ser Leu Gln Glu Glu Ala Lys
      35                      40                      45

Asp Leu Gly Ile Lys Leu Lys Ile Leu Pro Val Asp Asp Tyr Arg Ile
      50                      55                      60

Pro Asn Arg Leu Leu Leu Asp Lys Gln Val Asp Ala Asn Tyr Phe Gln
      65                      70                      75                      80

His Gln Ala Phe Leu Asp Asp Glu Cys Glu Arg Tyr Asp Cys Lys Gly
          85                      90                      95

Glu Leu Val Val Ile Ala Lys Val His Leu Glu Pro Gln Ala Ile Tyr
      100                      105                      110

Ser Lys Lys His Ser Ser Leu Glu Arg Leu Lys Ser Gln Lys Lys Leu
      115                      120                      125

Thr Ile Ala Ile Pro Val Asp Arg Thr Asn Ala Gln Arg Ala Leu His
      130                      135                      140

Leu Leu Glu Glu Cys Gly Leu Ile Val Cys Lys Gly Pro Ala Asn Leu
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145		150		155		160
Asn Met Thr Ala Lys Asp Val Cys Gly Lys Glu Asn Arg Ser Ile Asn						
	165			170		175
Ile Leu Glu Val Ser Ala Pro Leu Leu Val Gly Ser Leu Pro Asp Val						
	180			185		190
Asp Ala Ala Val Ile Pro Gly Asn Phe Ala Ile Ala Ala Asn Leu Ser						
	195			200		205
Pro Lys Lys Asp Ser Leu Cys Leu Glu Asp Leu Ser Val Ser Lys Tyr						
	210			215		220
Thr Asn Leu Val Val Ile Arg Ser Glu Asp Val Gly Ser Pro Lys Met						
	225			230		235
Ile Lys Leu Gln Lys Leu Phe Gln Ser Pro Ser Val Gln His Phe Phe						
	245			250		255
Asp Thr Lys Tyr His Gly Asn Ile Leu Thr Met Thr Gln Asp Asn Gly						
	260			265		270

FOR THE